S. HRG. 101-890

DIGITAL AUDIO TAPE RECORDER ACT OF 1990

HEARING

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

ON

S. 2358

ENTITLED THE DIGITAL AUDIO TAPE RECORDER ACT OF 1990

JUNE 13, 1990

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DIGITAL AUDIO TAPE RECORDER ACT OF 1990

WEDNESDAY, JUNE 13, 1990

U.S. Senate,
Committee on Commerce, Science, and Transportation,
Subcommittee on Communications,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m. in room SR-253, Russell Senate Office Building, Hon. Daniel Inouye (chairman of the subcommittee) presiding.

Staff members assigned to this hearing: Toni Cook and Tom Cohen, staff counsels; Gina Keeney and William Heyer, minority staff counsels.

OPENING STATEMENT BY SENATOR INOUYE

Senator Inouye. This morning we meet to consider S. 2358, the Digital Audio Tape Recorder Act of 1990. This bill, the so-called DAT bill, was introduced by Senator DeConcini, who is with us this morning. It raises the fundamental issue of whether we should focus copyright matters on certain technologies or view them as a whole.

Three years ago this subcommittee convened to hear the merits of S. 506, the Digital Audio Recorder Act of 1987. That bill did not move because more work was needed on the technological solution to serial copying. It was also decided that it would be beneficial if the involved parties were to meet to iron out their differences prior to bringing the matter before Congress. We thought that progress had been made and that S. 2358 reflected this progress.

However, first we learned, that the music publishers and songwriters oppose this bill, and just yesterday we learned that two of the bill's supporters have concerns about a new technology, digital compact cassettes, and that the recording industry would like to conduct further negotiations on this matter. Consequently, I strongly urge the parties at the completion of this hearing to try to work out their differences. If a compromise is not reached then, it will be extremely difficult for any bill on this issue to move forward this year.

The measure before us today, S. 2358, prohibits the manufacture or distribution of digital audio tape recorders in the United States that do not meet the specifications set forth in the bill or standards approved by the Secretary of Commerce. Specifically, the bill would require that all digital audio tape recorders sold in the United States be equipped with serial copy management systems circuitry chips. The SCMS technology will allow first generation copies of prerecorded materials but would not allow succeeding generation copies. In short, this technology limits serial copying, which is of great concern to a great deal of people in the music industry. This measure implements only a technological fix and does not address the illegality of private home taping or the issue of royalty payments.

I look forward to hearing from all the witnesses that have gathered this morning to speak on this bill. First, we will hear from the Registrar of Copyrights, Mr. Ralph Oman.

After that, we will hear from the supporters of S. 2358, Mr. Jason Berman, President of the Recording Industry Association of America; Mr. Thomas Friel, Chairman of the Home Recording Rights Coalition; Mr. Kevin Kondo, General Manager of Honolulu Audio Video; and Mr. Leonard Feldman of Leonard Feldman Electronic Labs.

Then we will listen to the testimony of Mr. Philip Greenspun, President of Isosonics Corporation; Mr. Edward Murphy, President and Chief Executive Officer of the National Music Publishers Association; Mr. George David Weiss, President of the Songwriters Guild of America; Mr. Michael Smith, President of SJS Advanced Strategies; Mr. George Wilson, Director of Systems Integration of Stanley Associates; and Mr. Wayland Holyfield of AMI Music Publishing.

On behalf of the committee, I thank all of you for taking time out today to discuss this matter.

Senator McCain.

OPENING STATEMENT BY SENATOR McCAIN

Senator McCain. Mr. Chairman, I appreciate your holding this hearing today. I think it is a very important hearing. As you just stated, it is an incredibly complex issue that we are addressing.

I am very appreciative of the efforts of my friend and colleague from Arizona, Senator DeConcini, who has made an honest and good faith effort in trying to resolve an incredibly complex issue. I wonder how many years ago we would have been astonished at seeing a device like this which is capable of almost exact replication of the original and the fact that, as you stated, Mr. Chairman, there seems to be now some reservations on the part of some of the parties driven by the even newer technology being entered into this already incredibly complex issue.

I also think that it is important, Mr. Chairman, that the songwriters and musicians who will be represented here today have their place at the table. I think they have a right to, and I know that all of us would look forward to hearing what they have to say.

Sometimes, Mr. Chairman, I feel a little bit like those that were alarmed at the invention of the automobile as opposed to the horse and carriage regarding the implications that it had for America and for the way that we did business. Clearly, this is not just an isolated example of the challenges and dilemmas that we are presented with as technology improves.

So I certainly look forward to hearing from the witnesses today. Again, I would like to thank my friend, Senator DeConcini, who has spent many, many hours on this very difficult and complex problem.

Thank you, Mr. Chairman.

Senator INOUYE. Thank you, Senator McCain.

Senator Gore.

OPENING STATEMENT BY SENATOR GORE

Senator GORE. Thank you, Mr. Chairman. I do have an opening statement, but I would be happy to defer to Senator DeConcini to present his statement first.

Mr. Chairman, I want to thank you, first of all, for developing this hearing. I believe you have probably handled the toughest, most controversial issues that have come to the Commerce Committee this year. I know last week was pretty controversial.

Senator INOUYE. I need a pay raise.

Senator GORE. Well, there is another controversial issue right there.

As you know, over the past decade, Mr. Chairman, I have been deeply involved in issues affecting the taping of recorded music. The issue has always been fairly simple: Should new technology, in this case the digital audio recorder, undermine the rights of songwriters, performers, publishers and record companies to be compensated for their work? I believe most of us would agree that technology should not rob artists of their property. How should we insure that the creative community is indeed compensated and compensated fairly?

You can go anywhere in the world and turn on a radio, and the odds are you will be hearing an American song. If it is not an American song, just wait a minute and the next one will be an American song.

In an age when we are worried about losing our edge in industry after industry, world culture is moving toward America's standard in large part because America's creative community leads the world in every respect, and songwriters have been leading the creative community. In the last Congress I introduced legislation to prevent the importation of the new digital audio taping devices until an agreement could be reached between the music industry and the equipment manufacturers. So, like many others concerned about the well-being of our domestic creative community, I was pleased to hear that an agreement had been reached.

In a way, I want to congratulate the RIAA and its leadership for working so hard to resolve this thorny issue. I am sure that the so-called Athens Agreement is not flawed because the RIAA failed to push for the best possible agreement, but, Mr. Chairman, it is in fact flawed. As you might imagine, in representing a constituency of not only record companies but also songwriters and publishers there is an awful lot of disagreement in my state over the Athens Agreement and over the bill before us today. The songwriters are a very special link in the creative music process. As we all understand clearly, without these artists there would be no music.

While so much of our entertainment industry is being acquired by foreign interests, it is the songwriter that remains distinctly American. It is the songwriter who creates a product prized worldwide and who anchors one of the great economic success stories of

America. Mr. Chairman, I am sad to say it is the songwriter who feels most threatened by the legislation before us today.

As I understand the issue, most of the songwriters and publishers and the coalition representing them in this state oppose this bill for two reasons. First, the agreement and the legislation provide no compensation in the form of royalties or some other compensation mechanism for the creative community. Yes, the record companies seem to have negotiated an agreement that would provide some technological protection in the DAT machines about to arrive on our shores later this summer, but the songwriters and publishers complain that for the very first time in the U.S. law the agreement embodied in this legislation simply sanctions uncompensated home taping.

Second, the creative community believes it was not an integral part of the negotiations that resulted in the Athens Agreement, and that in being excluded from the table they had no say in the contents of the agreement. In earlier remarks, I heard the expression that they have a right to come to the table here in this room. Indeed, they do. I feel they should have had a right to come to the table when the Athens Agreement was negotiated.

Regardless of the chronology of the negotiations, it is safe to say that there is strong disagreement about the final Athens Agreement. Yes, they were invited to attend as observers but not invited to play a meaningful role in working out the matters in dispute. That is not a fair chance to participate in resolving the issues in which their stake is so large.

I understand, as you said, Mr. Chairman, that the new Philips technology, the digital compact cassettes, has further complicated the Athens Agreement and that it may be necessary to revisit the terms of this legislation to deal with the new generation of DAT equipment. I am anxious to learn more about this new development.

I would like to note that I am pleased, however, that Philips, unlike many of the current and prospective DAT manufacturers, does not oppose a royalty or other compensation mechanism for the creation of copyrighted material. That is a progressive position for a manufacturer. As I noted earlier, U.S. music has become ubiquitous throughout the world. Yet in Europe, for instance, copyrighted music is protected through a royalty system for taping. At some point the Congress simply must face these issues. This is private property, and it cannot be cavalierly disregarded.

In the meantime, I cannot support the legislation that embodies the Athens Agreement. I hope this hearing will begin the process of reconciliation of the different groups within this industry so that we can get on with the goal of protecting U.S. copyrighted property.

I wholeheartedly second the fine remarks expressed by the Chairman in his opening statement, but for now I am not convinced that the concerns of the creative community have been adequately addressed in the legislation before us today.

So Mr. Chairman, I know the committee will learn a great deal about DAT technology and about other issues associated with the technology today. Again, I want to thank you for holding this hearing and for including the entire spectrum of opinions about the legislation.

I take it that Senator Burns is next for an opening statement.

OPENING STATEMENT BY SENATOR BURNS

Senator BURNS. Thank you. I want to thank the Chairman for holding these hearings and showing some leadership, because I think there are a lot of issues just in this one that a lot of us have a hard time understanding, and I think what will be brought before this Committee today will be—and during this hearing will be very useful to all of us.

I have to use a phrase that was used by Senator Gore this morning, that we do not have problems here, we only have challenges. But we may find this to be one of those great, insurmountable opportunities, as we go down the road.

The willingness of both sides to bring their arguments to the table before this hearing, shows leadership of not only our Chairman but I think of this Committee in trying to deal with very, very technical and complex issues. In fact, I would say that the majority of people going down the street have little or no understanding of copyright laws and how it applies to music and the entertainment business, or whatever, including the business of moving information.

This legislation is the result of an historic coalition of recording industry interests and consumer audio electronics manufacturers—who have traditionally been at odds over the difficulties presented for copyright owners when new recording technologies are introduced.

The bill, however, is being vigorously opposed by groups within the music community on the grounds that it does not provide enough protection for copyright owners.

Mr. Chairman, your willingness to present both sides of this issue in a Senate hearing will allow the members of this subcommittee to listen to the arguments for and against this proposal and determine whether or not this bill truly is a compromise that represents progress for all concerned—most importantly, consumers.

The legislation before us today, The Digital Audio Tape Recorder Act of 1990, would require all DAT recorders sold in the United States to contain circuitry that would prevent serial copying, that is, the making of digital copies of digital copies.

This legislation was written so that neither the opponents or proponents of home taping were forced to yield their long established positions on the legality of home taping. The legislation expressly provides that it does not reduce or expand any right with respect to home taping.

The legislation does not address the issue of royalties. I want the record to show that this Senator is a supporter of royalties as a fair and just means of compensating copyright proprietors for the damage done by home taping. This is based on my firm belief that enforceable property rights are the cornerstone of a free enterprise system and particularly important in the entertainment and communications businesses as an incentive for the creative community to match their output closely with consumer demand.

I now understand that since this agreement was reached to seek this legislation, a new kind of digital audio tape recording device was announced by a European manufacturer. This device, known as the Digital Compact Cassette (DCC) recorder, offers the consumer the dual benefits of recording digitally while maintaining the use of their analog cassettes.

The recording industry apparently believes that, since this technology was not known of at the time of the negotiated agreement in Athens, it needs to be more fully examined in terms of its copyright implications before it is covered by the legislation currently before the Subcommittee. The RIAA has, thus, agreed to an amendment that would allow for greater flexibility in addressing this issue.

The recording industry, the consumer electronics manufacturers and copyright coalition deserve to be commended for bringing this debate before this subcommittee.

I look forward to hearing from all parties interested in the outcome of this bill.

Once again, Mr. Chairman, thank you for providing this subcommittee with the opportunity to explore the issue of digital recorders.

Senator GORE [presiding]. Senator Breaux?

OPENING STATEMENT BY SENATOR BREAUX

Senator BREAUX. Thank you, Mr. Chairman. I am here to learn as much as anything and I know that the general public may not understand the complexity of the issues. I know that my 14-year-old daughter listening to her stereo system and recording for her friends certainly understands how the system works.

I believe that a product is a right of the people who produce that product. I think the real goal here today is to try to figure out a way to ensure that producers of a product are protected with that product, and to not allow technology to somehow steal the product away from them, and I think that is what the goal is. I am not sure how we get there, but that is the purpose of this hearing, and hopefully we can do that.

Thank you.

Senator GORE. Senator Gorton?

Senator GORTON. No opening statement, Mr. Chairman.

[The bill follows:]

101st CONGRESS
2d Session

S. 2358

Entitled the "Digital Audio Tape Recorder Act of 1990."

IN THE SENATE OF THE UNITED STATES

MARCH 28 (legislative day, JANUARY 23), 1990

Mr. DECONCINI introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

---

A BILL

Entitled the "Digital Audio Tape Recorder Act of 1990."

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be referred to as the "Digital Audio Tape Recorder Act of 1990".

SEC. 2. FINDINGS.

(a) FINDINGS.—The Congress finds that—

(1) the Congress has been expressly granted the power under article 1, section 8, of the Constitution to promote the progress of science and the useful arts;

(2) representatives of the consumer electronics and recording industries have jointly studied possible

recommendations to governments about the functions of digital audio tape (hereinafter in this section referred to as "DAT") recorders;

(3) taking into account concerns raised in the worldwide music community regarding copyright protection, the industry representatives announced a worldwide agreement in 1989 to make joint recommendations to governments, including the United States Government, with respect to DAT technology;

(4) the industry representatives agreed to recommend for government implementation worldwide the serial copy management system (hereinafter in this section referred to as "SCMS"), a technical system for controlling so-called "serial" copying on DAT recorders;

(5) under SCMS, the circuitry which controls the functions of a DAT recorder will be programmed to read certain coding information accompanying the source material and, based on the particular combination of codes it reads, will not prevent unrestricted copying, will not prevent copying but label the copy with a code to restrict further digital-to-digital copying, or will disallow such copying;

(6) under SCMS, a DAT recorder will not be prevented from making first-generation digital-to-digital

copies of original copyright-protected prerecorded music and other material from compact discs, prerecorded DAT cassettes, digital broadcasts, and other digital sources entering through a digital input, but will be prevented from making second-generation digital-to-digital copies of the copies;

(7) under SCMS, in recognition of the fact that a DAT recorder at present will be unable to determine whether original prerecorded music or other material entering through an analog input has been coded for copyright protection, a DAT recorder will not be prevented from making first-generation and second-generation digital-to-digital copies of the source material, but will be prevented from making third-generation digital-to-digital copies of the second-generation copies;

(8) in the event that technological developments permit the circuitry of a DAT recorder to identify copyrighted material entering through an analog input, equivalent limitations on digital copies of copies should apply, but there will be no limitation on serial digital copying of analog material not coded for copyright protection;

(9) home taping on conventional analog tape recorders will not be subject to SCMS and thus will remain unaffected;

(10) the benefits of implementing SCMS for DAT recorders will be significant for consumers, the recording industry, the consumer electronics industry, and others in the United States;

(11) in furtherance of the realization of those benefits and to encourage other governments to act accordingly, this Act implements SCMS for DAT recorders and provides mechanisms for regulatory implementation of solutions with respect to future issues and technological developments;

(12) representatives of the consumer electronics and music industries are expected to discuss copyright issues resulting from new technologies, including recordable and erasable compact disc players, and to study possible approaches, and to make recommendations to governments, including the United States Government, for applying SCMS or another system with greater copying restrictions than SCMS to these new technologies;

(13) this Act does not address or affect the legality of private home copying under the copyright laws;

(14) the enactment of this Act shall not prejudice consideration of whether or not royalties should be levied for private home copying of copyrighted music; and

(15) the enactment of this Act will promote the progress of science and the useful arts by encouraging the development of new technologically advanced products while providing copyright-related protection for creators of artistic works.

SEC. 3. DIGITAL AUDIO TAPE RECORDERS AND PHONORECORDS.

(a) PROHIBITION ON MANUFACTURE OR DISTRIBUTION.—(1) No person shall manufacture or distribute any digital audio tape recorder or digital audio interface device which does not conform to the standards and specifications to implement the serial copy management system that are either—

(A) set forth in the technical reference document; or

(B) established under an order by the Secretary of Commerce under section 4(b)(1) or (2).

(2) If the Secretary of Commerce approves standards and specifications under section 4(b)(3), then no person shall manufacture or distribute any digital audio tape recorder or digital audio interface device which does not conform to such standards and specifications.

(b) PROHIBITION ON CIRCUMVENTION OF SERIAL COPY MANAGEMENT SYSTEM.—No person shall manufacture or distribute any device, or offer or perform any service, the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent any program or circuit which implements, in whole or in part, the serial copy management system in a digital audio tape recorder or digital audio interface device.

(c) EXCEPTION FOR PROFESSIONAL MODELS.—(1) Notwithstanding subsections (a) and (b), the requirements of those subsections shall not apply to a professional model digital audio tape recorder. For purposes of this Act, the term "professional model digital audio tape recorder" means a digital audio tape recorder—

(A) which is capable of sending a digital audio interface signal in which the channel status block flag is set as a "professional" interface, in accordance with the standards and specifications set forth in the technical reference document or established under an order issued by the Secretary of Commerce under section 4;

(B) which is clearly, prominently, and permanently marked with the letter "P" or the word "professional" on the outside of its packaging, and in all advertising, promotional, and descriptive literature, with respect to the recorder, that is available or provided to persons other than the manufacturer, its employees, or its agents; and

(C) which is designed, manufactured, marketed, and intended for use by recording professionals, in the ordinary course of a lawful business.

(2) The capability in a digital audio tape recorder described in paragraph (1)(A), or the marking of a digital audio tape recorder described in paragraph (1)(B), shall not create any presumption that the recorder is a professional model digital audio tape recorder.

(3) In determining whether a digital audio tape recorder meets the requirements of paragraph (1)(C), factors to be considered shall include—

(A) whether it has features used by recording professionals in the course of a lawful business, including features such as—

(i) a data collection and reporting system of error codes during recording and playback;

(ii) a record and reproduce format providing "read after write" and "read after read";

(iii) a time code reader and generator conforming to the standards set by the Society of Motion Picture and Television Engineers for such readers and generators; and

(iv) a professional input/output interface, both digital and analog, conforming to standards set by audio engineering organizations for connectors, signaling formats, levels, and impedances;

except that the presence or absence of features referred to in this subparagraph shall not create any presumption as to whether or not a digital audio tape recorder is a professional model digital audio tape recorder;

(B) the nature of the promotional materials used to market the digital audio tape recorder;

(C) the media used for the dissemination of the promotional materials, including the intended audience;

(D) the distribution channels and retail outlets through which the recorder is disseminated;

(E) the manufacturer's price for the recorder as compared with the manufacturer's price for digital audio tape recorders implementing the serial copying management system;

(F) the relative quantity of manufacture of the recorder as compared to the size of the manufacturer's market for professional digital audio tape recorders;

(G) the occupations of the purchasers of the recorder; and

(H) the uses to which the recorder is put.

(d) ENCODING OF INFORMATION ON PHONORECORDS.—(1) No person shall encode a phonorecord of a sound recording with inaccurate information relating to the category code, copyright status, or generation status of the source material so as to improperly affect the operation of the serial copy management system.

(2) Nothing in this Act requires any person engaged in the manufacture or assembly of phonorecords to encode any such phonorecord with respect to its copyright status.

(e) INFORMATION TO ACCOMPANY TRANSMISSION IN DIGITAL FORMAT.—Any person who transmits or otherwise communicates to the public any sound recording in digital format shall not be required under this Act to transmit or otherwise communicate the information relating to the copyright status of the sound recording; except that any such person who does transmit or otherwise communicate such copyright status information shall transmit or communicate such information accurately.

(f) DEFINITION.—For purposes of this section, the term "manufacture or distribute" means to manufacture, assemble, sell, resell, lease, or distribute in commerce, or to offer for sale, resale, lease, or distribution in commerce.

SEC. 4. SERIAL COPY MANAGEMENT SYSTEM.

(a) PUBLICATION OF TECHNICAL REFERENCE DOCUMENT.—Within 10 days after the date of the enactment of this Act, the Register of Copyrights shall cause the technical reference document to be published in the Federal Register.

(b) ORDERS OF SECRETARY OF COMMERCE.—The Secretary of Commerce, upon petition by an interested party and after consultation with the Register of Copyrights, may issue an order to implement the serial copy management system set forth in the technical reference document as follows:

(1) The Secretary may issue such order for the purpose of permitting in commerce devices that do not conform to all of the standards and specifications set forth in the technical reference document, if the Secretary determines that such devices possess the same functional characteristics with respect to regulation of serial copying as, and are compatible with the prevailing method for implementation of, the serial copy management system set forth in the technical reference document.

(2) The Secretary may issue such order for the purpose of permitting in commerce devices that do not conform to all of the standards and specifications set forth in the technical reference document, if the Secretary determines that the standards and specifications relating generally to digital audio tape recorders and digital audio interface devices have been or are being revised or otherwise amended or modified such that the standards and specifications set forth in the technical reference document are not or would no longer be ap-

plicable, and that such devices conform to such new standards and specifications and possess the same functional characteristics with respect to regulation of serial copying as the serial copy management system set forth in the technical reference document.

(3) The Secretary may issue such order for the purpose of approving standards and specifications for a technical method implementing in a digital audio tape recorder the same functional characteristics as the serial copy management system so as to regulate serial copying of source material in the analog format in an equivalent manner as source material in the digital format.

SEC. 5. REMEDIES.

(a) CIVIL ACTIONS.—Any aggrieved person or the Attorney General of the United States may bring a civil action in an appropriate United States district court against any person for a violation of section 3.

(b) POWERS OF THE COURT.—In an action brought under subsection (a), the court—

(1) consistent with the limitation set forth in subsection (e), may grant temporary and final injunctions on such terms as it may deem reasonable to prevent or restrain violations of section 3;

(2) shall award damages under subsection (c);

(3) shall direct the recovery of full costs, including awarding reasonable attorney's fees, by an aggrieved person, other than the United States, who prevails; and

(4) may grant such other equitable relief as it may deem reasonable.

(c) DAMAGES.—(1) An aggrieved person shall be entitled to recover damages for violations of section 3, which shall be computed, at the election of the aggrieved person at any time before final judgment is rendered, in accordance with one of the following, but in no event shall the judgment exceed a total of $1,000,000:

(A) The aggrieved person may recover the actual damages suffered by him or her as a result of the violation and any profits of the violator that are attributable to the violation which are not taken into account in computing the actual damages. In determining the violator's profits, the aggrieved person is required to prove only the violator's gross revenue, and the violator is required to prove his or her deductible expenses and the elements of profit attributable to factors other than the violation.

(B) The aggrieved person may recover an award of statutory damages for each violation of subsection (a) or (b) of section 3 in the sum of not less than

$1,000 nor more than $10,000 per device involved in such violation or per device on which a service prohibited by section 3(b) has been performed, as the court considers just.

(C) The aggrieved person may recover an award of statutory damages for each violation of subsection (d) of section 3 in the sum of not less than $10 nor more than $100 per phonorecord involved in such violation, as the court considers just.

(D) The aggrieved person may recover an award of statutory damages for each transmission or communication that violates subsection (e) of section 3, in the sum of not less than $10,000 nor more than $100,000, as the court considers just.

(2) In addition to making an award of damages under paragraph (1), in any case in which the court finds that a violation of section 3 was committed willfully and for purposes of direct or indirect commercial advantage or private financial gain, the court in its discretion may increase the award of damages, whether actual or statutory, by an additional amount of not more than $5,000,000.

(3) In any case in which the court finds that the violator was not aware and had no reason to believe that his or her acts constituted a violation of section 3, the court in its dis-

cretion may reduce the total award of damages to a sum of not less than $250.

(d) IMPOUNDING OF ARTICLES.—At any time while an action under this section is pending, the court may order the impounding, on such terms as it may deem reasonable, of any device or phonorecord that is in the custody or control of the alleged violator and that the court has reasonable cause to believe does not comply with, or was involved in a violation of, section 3.

(e) LIMITATION REGARDING PROFESSIONAL MODELS.—Unless a court finds that the labeling and distribution of a digital audio tape recorder as a professional model by a manufacturer, given the factors set forth in subsection (c) of section 3, were without a reasonable basis or not in good faith, the court shall not grant a temporary or preliminary injunction against the distribution of such devices by the manufacturer.

(f) REMEDIAL MODIFICATION AND DESTRUCTION OF ARTICLES.—As part of a final judgment or decree finding a violation of section 3, the court shall order the remedial modification, if possible, or the destruction of any device or phonorecord that does not comply with, or was involved in a violation of, section 3 that is in the custody or control of the violator or that has been impounded under subsection (d) of this section.

(g) Definition.—For purposes of this section, the term "device" does not include a phonorecord.

SEC. 6. DEFINITIONS.

(a) In General.—As used in this Act—

(1) the term "aggrieved person" means—

(A) any person engaged in the manufacture or assembly of any digital audio tape recorder or any phonorecord;

(B) any person who is a copyright owner of any work embodied in a phonorecord; and

(C) any association, representative, or agent of any person described in subparagraph (A) or (B);

(2) the term "commerce" means commerce between or among any of the States, or between any of the States and any foreign nation;

(3) the term "digital audio interface device" means any machine or device, whether or not developed as of the date of the enactment of this Act, and whether or not included with or as part of some other device, that supplies a digital audio signal through a "non-professional interface", as the term "non-professional interface" is used in the Digital Audio Interface Standard in part I of the technical reference document

or in an order of the Secretary of Commerce under section 4(b) (1) or (2);

(4) the term "digital audio tape recorder" means any device, whether or not developed as of the date of the enactment of this Act, and whether or not included with or as a part of some other device, that is intended or marketed for the primary purpose of making a sound recording in a digital format on magnetic tape;

(5) the term "interested party" means any person engaged in the manufacture or assembly of any digital audio tape recorder or any phonorecord, or any association, representative, or agent of such person;

(6) the term "person" includes "anyone" as that term is used in section 501(a) of title 17, United States Code;

(7) the term "serial copy management system" means the system for regulating serial copying by digital audio tape recorders that is set forth in the technical reference document or in an order of the Secretary of Commerce under section 4;

(8) the term "State" means any of the several States, the District of Columbia, and any commonwealth, territory, or possession of the United States;

(9) the term "technical reference document" means the document entitled "Technical Reference

Document for Digital Audio Tape Recorder Act of 1990", as such document appears under the proceedings of the Senate in the Congressional Record for March 28, 1990; and

(10) the terms "analog format", "copyright status", "category code", "generation status", and "source material" mean those terms as they are used in the technical reference document.

(b) COPYRIGHT DEFINITIONS.—Except as otherwise provided, all terms used in this Act shall have the same meanings as those terms are given in title 17, United States Code.

SEC. 7. EFFECT ON OTHER LAW.

This Act does not affect any right or remedy, or any limitation on such right or remedy, held by or available to any person under title 17, United States Code. Nothing in this Act creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under title 17, United States Code.

SEC. 8. AMENDMENT TO TITLE 17, UNITED STATES CODE.

(a) IN GENERAL.—Chapter 5 of title 17, United States Code, is amended by adding at the end the following:

"§ 511. Effect of Digital Audio Tape Recorder Act of 1990

"The Digital Audio Tape Recorder Act of 1990 does not affect any right or remedy, or any limitation on such right or remedy, held by or available to any person under this title. Nothing in the Digital Audio Tape Recorder Act of 1990 creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under this title.".

(b) CONFORMING AMENDMENT.—The table of sections at the beginning of chapter 5 of title 17, United States Code, is amended by adding at the end the following:

"511. Effect of Digital Audio Tape Recorder Act of 1990.".

SEC. 9. EFFECTIVE DATE.

This Act shall take effect on the date of the enactment of this Act, but shall not apply to any device or phonorecord manufactured or assembled before such date.

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Senator GORE. Senator DeConcini, we welcome you as a guest of the Committee, and welcome your opening statement.

STATEMENT OF HON. DENNIS DeCONCINI, U.S. SENATOR FROM ARIZONA

Senator DECONCINI. Mr. Chairman, thank you very much. I want to thank my colleagues for allowing me to participate, as Chairman of the Subcommittee on Copyrights, Patents, and Trademarks this issue or similar to it has been before our Judiciary Committee on a number of occasions. However, this bill, the jurisdiction primarily falls before the Commerce Committee, and so I am here to listen and to hear testimony on S.2358, the Digital Audio Tape Recorder Act of 1990.

In my view, the time has come for consumers across the country to have the opportunity to enjoy the DAT advancement in sound recordings. The digital audio tape recorder is a tape recorder that records information in digital form similar to the compact disk player, except on tape. In a digital recording, the music is converted into electronic impulses for coding in the same way a computer stores information. In contrast, a conventional analogue tape recorder records music in the form of the sound waves that constitute music.

For a number of years, I have attempted to balance the interest between artists who seek a royalty on blank tapes with that of consumers who seek access to new technology for home recording. For example, last Congress, I chaired a hearing with Congressman Kastenmeier on the problem posed by the new technology.

At that hearing, one of the main concerns voiced by recording industry representatives was that by using a DAT to tape a compact disk a consumer would be able to obtain a "digital master," or a digital clone every bit as good as the record producer's own digital master, and that this recording could then be reproduced repeatedly in that form. Representatives of the consumer electronics industry testified that they had voluntarily configured the device to prevent digital to digital cloning.

The focus of the hearing, however, was on the proposed technological additions to the DAT technology that would render the device incapable of recording specially prerecorded software. This technology, called the copy code scanner, was demonstrated by both the recording industry which developed it and the electronic industry. Our subcommittee subsequently asked the National Bureau of Standards to test the copy code scanner to determine its effect on DAT recorders. The NBS found that the copy code scanner degraded the sound quality and was unreliable and could easily be circumvented.

Thus, along with a number of my colleagues I have asked the Recording Industry Association of America and the Electronics Industry Association to try to resolve the dispute between themselves. This legislation represents the product of an agreement between those two long-term adversaries, and in reaching this compromise agreement the record companies and the electronic manufacturers did something quite important. They sat down and the asked, how can we negotiate constructively about DAT? How can we get a handle on tomorrow's technology so that we can spend less time arguing about what a product should be able to do and more time helping consumers enjoy the music, and most important, how can we start working together?

The compromise answer answers these questions. It does not resolve all outstanding issues, but it makes an excellent start, one that deserves congressional support, or at least a proper hearing that the Chairman of this Committee has agreed to hear today. I applaud both sides for their efforts and for their willingness to compromise.

Some groups have come forward to oppose this legislation because it does not provide for any levy on blank tapes or records. The proposals of this nature have been considered in home taping debates since I first became involved in late 1981. The recording industry and others in the music community have argued and continue to contend that consumer home taping costs them money. They have urged the enactment of a levy.

The consumer electronics industry, retail dealers and consumer groups have argued that the case for a royalty has never really been made. They have consistently opposed enactment of a levy on blank tapes or equipment and so can be expected to continue to do so. I have shared their view, but I have also always been willing to examine the evidence periodically as it comes forward.

In coming to the compromise on this legislation, Mr. Chairman, the recording industry and the consumer electronic industry have put the royalty debate to one side for the time being to get on with the very important innovation of this bill and what it represents. In introducing this bill, I have done the same. This bill is an important technological approach that has no bearing one way or the other, substantially or procedurally, on the on-going debate about royalties, in my judgment.

Similarly, the concern has been expressed that this bill sets some sort of precedent by explicitly acknowledging a home taping right under the copyright law. However, great care was taken to clarify that this is not a copyright bill. Indeed, this bill makes no determination one way or the other regarding home taping rights under the copyright laws.

Now, let me further describe what this bill does and what it accomplishes. The bill requires DAT's to have a serial copy management system. Under this system, a DAT will not be prevented from making a first-generation digital-to-digital copy of original prerecorded music and other material from compact discs, prerecorded DAT cassettes, digital broadcasts, and other digital sources entering through a digital input, but will be unable to make second-generation digital-to-digital copies of the copy. In recognition of the fact that a DAT, at present, is unable to determine whether original prerecorded music or other material entering through an "analog" input has been coded for copyright protection, a DAT will not be prevented from making first and second-generation copy of the source material, but will be prevented from making a third-generation copy.

The serial copy management system does not require any action by the consumer. No additional buttons or controls will complicate the recording process. Implementation of SCMS also will not require any changes to existing compact disc players or compact discs.

Home taping on conventional analog tape recorders will not be subject to SCMS. Thus, home taping on analog tape recorders will remain unaffected by this legislation. Moreover, the codes imbedded in digital sources to allow SCMS to work will not affect in any way the ability of analog tape recorders to record digital sources of music.

I would like to make one final point about this legislation, Mr. Chairman. It is important to recognize that this bill was designed to apply to established DAT technology, "R-DAT technology". I understand that new technology known as digital compact cassette [DCC] has recently been developed. The full impact, of the DCC upon the recording industry, remains to be seen. Therefore, I will work with this committee to insure that that the scope of S. 2358 is restricted to the existing R-DAT technology. This will give the recording industry, recording artists and manufacturers the opportunty to assess the impact of any other technological development upon the respective interests of all concerned. I encourage the songwriters and music publishers, who oppose this bill, to actively participate in the next round of discussion.

However, it is important that existing DAT technology finally be available to American consumers. The benefits of implementing SCMS on DAT's will be significant for consumers, the recording industry, the consumer electronics industry, and others in the United States. In furtherance of our goal of putting past controversy behind us, I hope the subcommittee will work with me in moving this bill quickly.

Senator **Inouye** [presiding]. Senator Gorton, did you care to make a statement?

Senator **Gorton**. No, thank you, Mr. Chairman.

Senator **Inouye**. Senator Pressler?

Senator **Pressler**. Mr. Chairman, I do not have an opening statement, but I look forward to hearing the witnesses.

Senator **Inouye**. Before we proceed, I would like to just make an observation that as Chairman of this Sucommittee I have tried my best to be as objective as I can be on all issues before us, but on this matter before us I have a slight bias. I would like to describe that bias by making an observation. We are here because of the creative, beautiful people of America, the songwriters and the composers, because if it were not for them we would not be here. Now, who is going to be recording speeches?

I can imagine making a big fuss over here, making a recording of our speeches.

This industry is booming because it records beautiful music, and that is why we are here. I think the time has come for the people who create to get a piece of the action, and so with that—Mr. Oman.

STATEMENT OF RALPH OMAN, REGISTER OF COPYRIGHTS, THE LIBRARY OF CONGRESS; ACCOMPANIED BY DOROTHY SCHRADER, GENERAL COUNSEL; AND CHARLOTTE GIVENS, SENIOR ATTORNEY

Mr. OMAN. Thank you very much, Mr. Chairman and members of the Subcommittee. With me on my right are Dorothy Schrader, the General Counsel of the Copyright Office, and on my left, Charlotte Givens, the senior attorney on her staff.

I am grateful for the opportunity to appear before you to testify on the Digital Audio Tape Recorder Act. This bill, as you mentioned, Mr. Chairman, would accomplish two purposes. It would give U.S. consumers the opportunity to enjoy a wonderful new technology, and it would give the manufacturers of the DAT recorders and the record companies a measure of protection as well. On the downside, the technology threatens copyright owner interests because it allows people to make perfect copies, and it gives the composers and musicians no piece of the action. The bill requires that DAT recorders contain a new copyright protection technology, as you mentioned, Mr. Chairman. I will not explain it for the record. It is in my written statement.

The SCMS is a result of the private negotiations that took place last year between the Japanese and European consumer electronics industry and the international recording industry. To be fair to all sides, I should note that Congress has repeatedly asked the parties to work out a deal between themselves; they thought they were being responsive to that mandate when they worked out this deal. These groups agreed to seek legislation in their respective countries so that SCMS might be established as the international standard. They thought this would end the long controversy that has delayed the introduction of the DAT machines, especially into the United States market.

The music publishers and composers, as you have mentioned, oppose the agreement. They contend that the SCMS allows nearly unlimited copying, and that the only fair solution is one that provides compensation for the home taping that DAT recorders encourage. I agree, Mr. Chairman, that a fair, comprehensive solution should include a royalty for the creators, but I do not oppose the enactment of this bill. I would urge, however, that there be some refinements, and I will get into those at the end of my statement.

In fact, this agreement does represent a great breakthrough, as has been mentioned by Senator DeConcini. For the first time, the equipment manufacturers have recognized that unbridled home taping injures the men and women who create the music, and that some limits on home taping are in fact appropriate. As an interim agreement, then, the SCMS represents a step in the right direction and I support it, but with a sense of regret. In my view, Congress is missing a golden opportunity, a once-in-a-lifetime opportunity. We have a chance to deal with the new technology squarely, and to face the copyright question squarely, instead of leaving it to another day.

We are dealing here with a very expensive, high end technology, one that only serious audiophiles will buy for $800 a pop is what they are predicting right now, and these people will pay $25 per prerecorded DAT tape to play on the machines. You are talking about a very limited audience, and this is the time to be enacting legislation to deal with the future, rather than let this opportunity slip by to the point where there will be, instead of the 50 tape enthusiasts that we have in the back of the room today, there will be 50 million tape enthusiasts who will stand in the way of Congress finally enacting a fair and comprehensive solution down the road.

All things being equal, Mr. Chairman, I would urge Congress to pass SCMS, but with an automatic compensation system built into it that takes into account all creative and production interest. Such a comprehensive solution would greatly benefit the public. The public would have more music to enjoy, and the nontaping public will not have to pay higher prices for the prerecorded tapes and CDs to subsidize those who do copy.

A debit card system, or a debit system in general, would, I think, result in a painless method of compensation to authors and composers, and I would urge Congress to consider this as part of the solution. I have talked to experts in the area, and I understand that technology is now available to allow for an automatic repayment system.

The lack of a royalty as part of a comprehensive solution, Mr. Chairman, will hurt the composers and publishers especially hard in the overseas markets. A number of countries, and that number of countries is growing, allow home taping royalties only for composers from other countries that allow for their composers to get royalties in the foreign countries, so again, American composers will get the short end of the stick, and I am thinking specifically here of Australia. They have enacted a home royalty solution, but they made that payment contingent on the fact that the country of the composer allow royalties for the Australian composers, and since the United States does not allow that royalty, American composers will be left out in the cold in Australia.

A debit card system, Mr. Chairman, would be, in my view, a marketplace solution. It would require no government collection, no government distribution and no government oversight. It would avoid the problem of how to exempt people who use blank tapes for noninfringing purposes, and it would avoid the political problems of returning to Congress time and again with each new technological advancement in sound recordings.

A debit system could dramatically alter the landscape. Record and tape stores could sell the cards, and the consumer would pay in advance for copying. The machine would automatically debit for the copying. People who record uncopyrighted material, as I said, would pay nothing.

Under a debit system, composers and publishers would get a percentage of the purchase price of the debit card, but if Congress fails to establish a legal basis for a royalty at the outset at this particular juncture, it will not be able to do so politically five or ten years down the road when the technology becomes essentially universal and the political options are greatly limited.

Unless Congress enacts a comprehensive bill, the U.S. public may not get all of the prerecorded tapes that they would need to justify the expense of buying the DAT machine, and the price of tapes will stay high to compensate at least the record companies for home taping, if not the composers and publishers.

Unless the creators eventually buy into the system—and they will not under the current draft—the DAT technology will never take off. I wonder why the manufacturers do not see this. A comprehensive solution will allow the technology to prosper, and all parties will benefit: the manufacturers, the record companies, the creative artists, the composers and the public.

So I urge Congress to enact a comprehensive overall policy consistent with constitutional copyright policy to encourage authorship and at the same time share the benefits of intellectual property and technological advancement with the public.

To develop a necessary factual background, Mr. Chairman, this may be an appropriate time to request a study of the operation of foreign royalty systems and of technological compensation options. I understand that a new round of negotiations has been suggested regarding a new product which you mentioned, the DCC, the digital compact cassettes, and royalties will be part of that discussion. This development confirmed for me the wisdom of looking toward a comprehensive solution. Congress will be better able to assess the policy options at the conclusion of the private sector negotiations.

Mr. Chairman, if you do decide to go forward with SCMS alone, I would suggest perhaps a few safeguards. The DAT machines, even with the SCMS circuitry installed, allow the owner to make a perfect copy for archival purposes, and in my preliminary opinion this function will displace a sale. Therefore, the DAT copying exceeds the bounds of fair use under the copyright laws as set by the Supreme Court, and the courts will very likely find that the manufacturers are in fact contributory infringers to the act of infringement.

So Congress may want to make explicitly clear in this legislation that home taping with SCMS is permitted under the copyright laws; otherwise, you may find your solution undone by the courts, and the American consumer could be left high and dry with an expensive but useless machine. I, of course, would not be in favor of such an exemption from copyright liability, but if that is what you want to do we will provide the technical advice for you to achieve your purpose.

Secondly, Mr. Chairman, I think it might be useful in terms of the continuing debate to consider some sort of sunset on the legislation. Of course, that sunset would not just eliminate the SCMS requirement but also would impose a sunset on the right of importation perhaps in five years. This would force the parties to get back to the table and reexamine the issues and would force them to consider the new technologies that are looming just over the horizon down the road. Some of them have been mentioned: the DCC, erasable compact discs, and recordable compact discs. All these things are part of a larger environment that would have to be considered in the next round of negotiations.

Having said that, Mr. Chairman, I will be pleased to answer any questions. Thank you.

[The statement follows:]

Statement of Ralph Oman
Register of Copyrights and
Assistant Librarian for Copyright Services

Before the Subcommittee on Communications
Senate Committee on Commerce Science and Transportation
101st Congress, Second Session
June 13, 1990

Mr. Chairman and members of the Subcommittee, I am pleased to appear before this distinguished body. Thank you and the Subcommittee staff for the opportunity to appear here today and testify on S. 2358, the Digital Audio Tape Recorder Act of 1990.

This bill accomplishes a dual purpose: it would provide U.S. consumers the opportunity to enjoy the technological advancement in sound recordings afforded by the use of digital audio tape (DAT) recorders and would give the manufacturers of such recorders and producers of sound recordings a measure of protection as well. As Senator DeConcini, Chairman of the Patents, Copyrights, and Trademarks Subcommittee, noted in introducing this legislation on March 28, 1990, the bill is intended to end the controversy surrounding the introduction of DAT [1] technology into the United States.

Introduction

Advancements in taping technologies have intensified the dilemma Congress faces over the unrestricted home taping of copyrighted music. To date home taping royalty proposals have not been successful. In 1987, Congress considered technological additions to DAT machines that would

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[1] A digital audio tape (DAT) recorder is a tape recorder that records sound information in digital form. DAT is the aural equivalent of the compact disc. DAT recorders and the tapes they use are of smaller size than conventional analog tape recorders and tapes.

Congress considered technological additions to DAT machines that would prevent digital copying. But earlier copy prevention methods have proved unsuitable; S. 2358 represents a new technological solution to the problem.

Joint hearings were held in the last Congress to address the problems posed by DAT. The Recording Industry Association of America (RIAA) was concerned that this new technology would enable a consumer to make a digital master as good as the record producer's own and thus would displace sales. The consumer electronics industry, represented by the Electronics Industry Association (EIA), was willing to adjust its DAT machines to prevent digital-to-digital copying but was unwilling to render the DAT recorder incapable of recording prerecorded digital software. As a result, the Chairmen of the two respective Congressional subcommittees [2] asked the RIAA and the EIA to attempt to resolve the dispute among themselves. This legislation represents that agreement. It is notable for being the first agreement reached between two longtime warring parties.

There are some groups who oppose the agreement represented by this legislation, particularly groups representing songwriters and music publishers. These groups favor a royalty solution, a solution which was last considered in the 99th Congress, following the Supreme Court's decision in Universal City Studios, Inc. v. Sony Corp., 464 U.S. 417 (1984) (the Betamax case). During consideration of S. 2358, these interests and their arguments for a royalty deserve a fair hearing as well.

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2. The Senate Subcommittee on Patents, Copyrights, and Trademarks and the House Subcommittee on Courts, Civil Liberties, and the Administration of Justice.

S. 2358, the so-called Serial Copy Management System ("SCMS") bill, incorporates a technological copy prevention system acceptable to the sound recording and electronics industries and the Home Recording Rights Coalition. Music creators and publishers oppose the SCMS bill because their economic rewards are threatened by this new copying process.

I. HISTORICAL BACKGROUND

For many years, general tension has existed between authors (lyricists), composers, and musicians on one side and technology on the other — growing out of the threat that technology poses to their livelihood. The 1976 Copyright Act relegates authors and composers to statutory remuneration for phonorecords "made and distributed," rather than enabling them to bargain freely in the market for the right to record their musical compositions. [3] A different, but related story of strife has involved disputes over music performance fees between performing rights societies and radio and television stations.

Although Congress has considered several home taping bills during the last decade, it has passed none.

A. Author's claim of harm from private recording.

In Universal City Studios, Inc. v. Sony Corp., the copyright owners of motion pictures that were taped off the air alleged that the sale of the Betamax videocassette recorder constituted contributory copyright of copyrighted works. The district court ruled in favor of Sony, the appellate court reversed, but the Supreme Court also ruled in favor of Sony. The high court based its decision that the use of VCRs to tape copyrighted programs off the air was fair on two grounds. First, section 107 of the Copyright Act was interpreted to permit taping for purposes of delayed viewing — "time-shifting." Second, copyright owners had voluntarily broadcast these programs over the airwaves for home viewing.

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[3] The author has the absolute right to authorize the first recording, but subsequent recordings may be made without consent by complying with the "mechanical license" provisions of the law and paying the statutory royalty fee.

The Betamax decision is limited as a precedent. It does not answer all of the questions posed by private copying. For example, it does not deal with copying for the purpose of building a videotape library, or off-air taping of cable and pay television. Betamax answers even fewer questions respecting audio home taping because different assumptions prevail vis-a-vis videotaping and audiotaping. Individuals replay audiotapes more frequently than they do videotapes; and they tape with the intention of retaining audiotapes. One readily encounters large personal libraries of audiotapes. Videotape is more likely to be used as blank tape, with programs once viewed being recorded over by other programs.

The Sound Recording Act made sound recordings copyrightable under federal copyright law for the first time, effective February 15, 1972. The legislative history of the Act is often cited to support the position that Congress intended to leave home audiotaping unrestricted.[4] However, the committee reports accompanying the 1978 omnibus revision of the copyright law omit that specific language. The recording industry maintains that this omission was intentional and supports their position that private copying of audio tapes is not a fair use. [5]

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[4] H.R. Rep. No. 92-487, House Committee on the Judiciary, 92nd Cong., 1st Sess., 7 (1971).

B. Recent History

The debate over home taping intensified during the last Congress in the furor over the introduction of DAT recorders in United States. These recorders make taping for librarying even more a reality. Digital audio tape has the sound attributes of compact disc plus the added advantage of recording on minicassette tape format. [6]

Copyright interests had already been unsuccessful in their repeated efforts to get Congress to enact royalty legislation; they now began to pursue a technological solution to prevent private copying.

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5. M. Nimmer, NIMMER ON COPYRIGHT, Section 13.05[F], 13-124 (1989).

6. Old style videotape digital audio tape has long been utilized by professional musicians. Using something called a pulse code modulation adaptor, of which a prototype was developed in 1967, but not commercially marketed until 1978, musicians take advantage of videocassette recorders to digitally record sound. The PCM adapter converts audio signals to digital audio signals that appear at the adapter's video out connector. The broad bandwidth area over which recording is done allows for a better sound. PCM adapters can encode and decode independently, so that one section can encode while the other section decodes a separate signal, thus permitting multitrack taping without any loss of quality. Van Manen, "Under $2000 Digital Audio Sound-On Sound," Electronic Musician, 10, September, 1985.

Digital audio encoders take a stereo analog audio signal, convert it into a stream of 0s and 1s, record that data onto a VCR in the form of a not quite-standard video signal, and then play the recording back with astonishing fidelity." The master tape is CD-quality digital audio. In fact, PCMs were the de facto standard for mastering compact discs. In 1983, Sony's consumer division introduced the PCM-F1 for $1,700. Freff, "The PCM Story, Part 2: Hands-On and Happy," Electronic Musician, 30-35, May, 1986.

As pulse code modulated digital audio tape is a stock-in-trade item of professional musicians, the legislation wisely exempts from its scope any attempt to control professional use.

By 1987, a number of hypothetical copy prevention systems had been discussed but, other than the CBS Copycode system, none had been developed. The Japanese Ministry of Industry and Trade, however, required the manufacturers to alter DAT recorders so that they would convert the digital information to analog and then back to digital before the sound was recorded in digital form. This single generation drop alteration was not viewed by the creators and producers of recorded music as a satisfactory solution to the anticipated excessive private copying.

Members of Congress responded to these concerns by introducing S. 506 and H.R. 1384; hearings were held, on April 2, and May 15, 1987. These bills proposed that sale of DAT machines not be permitted to be sold in the United States unless fitted with a copy prevention system such that a decoder would not record suitably encoded material. Columbia Broadcasting System (CBS) Records developed a system intended to prevent all DAT copying. Unlike the relationship of the conventional cassette tape to the vinyl record, Copycode would have rendered the DAT recorder equivalent to a compact disc. Copycode was found to degrade aural quality, so it was determined to be an inadequate solution.

The CBS Copycode system,[7] removed a narrow band of frequencies from the audio signal. The EIA, supported by the Home Recording Rights Coalition (HRRC) staged a demonstration challenging the efficacy of the copy prevention system. A controversy thus developed, which raged for some months among intellectual property fora -- bar associations, etc. To resolve questions raised about the Copycode system, the Congress requested a study. The National Bureau of Standards (NBS) tested this copy prevention system.[8]

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[7] The Copycode system consisted of an integrated circuit and a phonorecord with certain frequencies carved out of them. The purpose of the chip, placed inside the DAT recorder, was to scan the sound recording in search of "notches," or sound holes in a particular frequency range. The sound recording would contain no sound information at 3840 Hz, somewhere between high B-flat and high B on piano. When the scanner sensed such a bald spot at this frequency, it would cause the recording mechanism to shut down for at least 30 seconds. As a result, a digital audiotape made under those circumstances would contain substantial sound gaps, rendering the DAT unusable, or spoiled, for uninterrupted listening.

[8] Congress asked for answers to the following questions: 1) Does the copy prevention system achieve its purpose to prevent digital audio taping machines from recording? 2) Does the system diminish the quality of the prerecorded material into which the notch is inserted? 3) Can the system be bypassed, and if so, how easily? To help with this test, the recording and consumer electronics industry contributed matching funds in the neighborhood of $75,000 each.# CBS Records also supplied descriptions, specifications, circuit diagrams, and encoding and recording/decoding devices. NBS then conducted laboratory studies necessary to answer questions. Listeners consisted of persons drawn from Audio Engineering Society, audiophiles, and musicians.

NBS found that the Copycode system did not achieve its stated purpose.[9] It also observed that the encoding process changed the electrical signal, affecting other frequencies in the same harmonic series with those frequencies.[10] NBS concluded that the Copycode system was easy to bypass -- the electronic components to do so were basic, off-the-shelf parts, costing $100.[11]

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9. Although the system prevented copying of notched material much of the time, it was not foolproof. Parenthetically, this should not be fatal, since one of the criticisms has been that notched material does not take into account material that falls into the public domain after being notched; nor does the system allow for fair use copying. Additionally, the system gave "false positives,"(failed to permit recording of unencoded material). False positives were found on 16 of 502 tracks on 10 of 54 compact discs studied. When compared to unencoded material, Copycode technology appears to some listeners on some selections to affect the sound quality of a recording.

Actually, the fact that the difference is detectable doesn't necessarily mean that the difference is a degradation in sound, since the latter implies aesthetically less desirable sound. But to the extent to which the listener receives some extraneous sound (sound emanated only because nonmusical or nonaural information is needed) -- it can be thought of as an unnecessary interruption of what the sound quality might be like but for the introduction of such information. The answer to the sound quality question is the most serious because the DAT is designed to deliver a quality closer to perfect replication than ever before.

10. Signal phase relationships near 3840 Hz, where the notch was made in signal amplitudes, were changed.

11. NBS found five devices from readily available material that successfully disengaged the Copycode system. While they found that it impossible to restore all the information removed by the encoding process, NBS engineers were able to construct several electronic circuits that could circumvent the notched material, thereby causing the DAT recorder to record it. The essential means of defeating the system is to add "signal conditioning." In essence, if the decoder/scanner seeking a bald sound spot in the 3840 HZ frequency range finds sound present there, the scanner will not interrupt recording.

II. TECHNOLOGY

The 1987 (first generation) DAT recorders would play back digitally, but, as a concession to those opposed to DAT records being imported in the United States, The Japanese Ministry of Industry and Trade (MITI) forced manufacturers to add built-in equipment converting the digital signal into analog before recording digitally. The resultant loss of sound, did not persuade the recording industry that these DATs were no threat. The sampling rate at which the analog signal was converted (48 kHz) was higher and thus more true to the original sound source than the original digital signal had been.

The 1990 version of DATs represents a system closer to the technical capacity of the machine. The second generation DATs make possible the recording of a higher quality sound: they record the same digital quality as they play back, without going through the intermediate conversion to analog that MITI required in a bid to come up with an acceptable concession.

Operation of Serial Copy Management System

The Serial Copy Management System (SCMS) represents the new agreed-upon way of limiting the amount of copying that can be done on DAT recorders. SCMS would operate on the same principle as Copycode, but with two important differences. As with Copycode, it would appear that both DAT recorders and tapes would be required to activate the system. The recorder would contain a copy-inhibiting device, which it would read from the DAT source.

Unlike Copycode, however, this technical solution controls only "serial" copying, that is, generations after the first generation has been made from a digital source, such as CD, prerecorded DAT, or digital broadcast. The principal breakthrough for SCMS is that CDs, or prerecorded DATs, can be used, without limitation, as master recordings. Thus, as long as an original source exists, unlimited copies may be made from those sources, with "serial" limitations only occurring at the next series of recordings. While "copies of copies" are limited, all first generation digital-to-digital copies are unrestricted.

Limitations on serial copying, or making copies of the copies, prevents chain-letter-like copying, and simply demands that the copier go back to an original to make any desired copies--one after the other. Independently, it appears that consumers have made this decision already. Thus, if current practices persist, very little copying will be prevented.

Because of current technology limitations, the SCMS cannot be used for analog sources. However, recording industry technical representatives are working on a method of copyright coding analog formats, and subsequent agreements may similarly limit copying on analog sources.

Another advantage of SCMS is that the information triggering the inhibit mechanism is not stored on aural channels as it is in Copycode. By contrast, this information is placed on the "digital subcode channel." The particular combination of codes there either permits unlimited copying, limits copying to a single copy, or restricts copying altogether. These DATS, equipped with both digital and analog input lines, categorize an incoming signal depending on whether the source was originally digital or analog. Material identified for copyright protection is marked with a "copyright flag."

Both the category code (denoting the source) and the copyright flag are written into digital subcode channel of the new tape being recorded to determine whether copying will be permitted thereafter. If the material is marked for copyright and the signal source is digital, the subcode will be 1,0. Digital broadcasts, CDs, and prerecorded DATs all fall into this category. If the digital divide being used as a source is a digital microphone -- one with an analog-to-digital converter -- serial copying of that material would not be limited.

If the material is not marked for copyright protection and comes from a digital source, it is marked 0,0, meaning that no limitation will be placed on future serial copying. If the music comes through analog inputs, given the high quality taping that will occur thereafter, the recorder will mark that copy 1,1 -- the copy will be digitally copyable once more, but thereafter subsequent copies will be barred.

In summary: 1) SCMS controls copying done on DAT recorders and has no effect on analog recorder operation. 2) With respect to digital sources, SCMS controls only copying done on DAT recorders other than that done from an original source, a CD, or prerecorded digital cassette. This copying too is unaffected by the SCMS system. 3) With respect to analog sources, DAT recorders will allow one copy of a copy -- in all, two generations -- to be recorded. 4) Digital subcode information is written in a different place than where sound signals are stored, and thus is not audible.

Based on this information, it is logical to conclude that sound quality is not at risk. Since the system was developed by industries replete with experts in this technological field, testing of SCMS has not appeared to be as crucial, at least until now. This leaves both SCMS's overall efficiency to achieve its purpose, and the ease with which it can be bypassed as open questions in terms of publicly available empirical evidence.

International Electrotechnical Commission Proposed Standards to Implement SCMS

A Technical Reference document, to be published by the Register of Copyrights in the Federal Register, establishes the standards and specifications that govern all digital audio tape recorders and interface devices.[12] Standards abound in the manufacturing of electronic devices for sale to make it possible for equipment manufactured by certain companies to be used by others. Some concern was expressed about whether the standards would create a monopoly for certain proprietary interests. Monopolies, however, are contraindicated, since the purpose of publishing standards and specifications in the Federal Register is to make such information public knowledge.

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[12] A memorandum containing these standards has been published in the Congressional Record. 136 Cong. Rec. S3410 (daily ed. March 28, 1990).

Emerging Creative Marketing: Personics

Personics is a marketing tool under which copyright owners have authorized a retail record store in California to duplicate certain musical compositions on custom recordings. A customer chooses from authorized selections electronically posted, and within minutes the store produces a personalized cassette album containing only the specific musical compositions the customer ordered. The system was tested beginning in 1989, and the number of compositions record companies are licensing is growing. Not unexpectedly, given the additional labor involved, the cost is slightly higher than the cost of a CD of comparable length.

Emerging Technology

CDs that are erasable and recordable are on the horizon. Such discs would eliminate the major difference between current CDs and DATs. In fact, this difference, the capacity of the DAT recorders to record is the reason the consumer electronics industry fought so vigorously to retain the recording feature in as large a measure as possible — compare, for example, their hostility to the Copycode system as opposed to their acceptance of SCMS. Philips reportedly is developing a digital compact cassette product.

Automatic Debit Technology

Outside the laboratory, it is possible to envision a number of technological solutions to provide for prepaid royalties. Most of the criticism lodged at royalties centered around anticipated difficulties with collection and distribution. There is increasing reluctance to involve the government in administering the licensing of copying — independent administration by private societies is preferred. Moreover, flat taxes lack the ability to particularize home copying where it occurs. Finally, such taxes neither allow for fair use copying nor insure that fees are not paid for works in the public domain.

However, a prepaid royalty card, which could read information digitally from the recording being taped, could obviate all these drawbacks. Usable technology that may be helpful already exists in industry. For example, college students are now able to purchase food farecards, and by utilizing barcode labels on the cards, they are later debited for individual items purchased in various locations. Metro farecards are another possible prototype, with the added advantage of reading specific information about home copying of digital phonorecords onto the card.

III. ANALYSIS OF THE SCMS BILL

S. 2358, and H.R. 4096, the companion bill, carry out the "Athens agreement" between the RIAA and the EIA. On July 28, 1989, these groups announced a worldwide software/hardware agreement to make joint recommendations to governments respecting DAT recorders.

The two groups settled on a technical compromise to implement a Serial Copy Management System (SCMS) with respect to new DAT recorders. The SCMS will require machine producers to install a device to read code information accompanying source material and, based on the combination of codes it reads, will either permit unrestricted digital-to-digital copying, permit copying but label the copy with a code to restrict further copying, or disallow such copying. The system permits first-generation digital copies of music from compact discs, prerecorded DAT cassettes, and digital broadcasts, but not second-generation digital copies of copies. Music recorded on DAT from analog sources -- LPs and conventional audio cassettes and broadcasts -- would be permitted up to two generations of digital copies, but third generation copies could not be made. Home taping on conventional analog recorders would not be affected.

S. 2358 is divided into nine sections. Section 1 states the title of the bill: the "Digital Audio Tape Recorder Act of 1990." Section 2 sets forth the Findings, which make certain declarations about how SCMS was developed, how it works, the benefits of the SCMS agreement, and expectations for future agreements with respect to hometaping of other forms of digital phonorecords. Section 3 contains the substantive provisions of the bill, such as describing prohibited conduct. Section 4 implements the serial copy management system. Section 5 prescribes civil remedies for violation of the bill's provisions. Section 6 contains the definitions of key terms used in the bill, ending with a boilerplate provision that all other terms having the same meanings are contained in the copyright law. Section 7 declares that the Digital Audio Recorder Act is not to affect any copyright right or remedy, nor afford any greater or lesser right respecting private home copying under the Copyright Act, and Section 8 amends the Act to that effect. Section 9 makes the bill effective on the date of enactment.

The Act would amend Title 15, Commerce and Trade, rather than the copyright provisions of Title 17, in order to avoid establishing any precedent that would affect rights and remedies under the Copyright Act.

No decision has squarely held that home audio recording is a copyright infringement, so the legality of the practice is far from settled.[13] Most of the anticipated use of DAT recorders is in the home, since professional devices are widely available to turn VCRs into DAT recorders. The technical, trade-based approach of the bill is intended to bypass copyright iissues, but it raises international trade questions. For example, does Japan, by its importation of DAT recorders to the United States contributorily infringe copyright owners' rights? The grounds on which Betamax was decided — off-air taping and time shifting — do not obtain here. Would the U.S. Trade Representative bring a Section 301 action? For that matter, would a cause of action lie under U.S. copyright law?

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13. But see 2 M. Nimmer, Nimmer on Copyright, Sec. 8.05 (d)(3)(1989).

The legislation is limited to products that are primarily intended to be used to make digital audio tape recordings. Compact disc players with a recording function, analog tape recorders, and videocassette recorders capable of digital audio and video recording would be excluded. The bill would, however, cover devices containing DAT recorders and digital audio interface devices.

In the substantive portion, section 3(a) provides that no person shall manufacture or distribute a DAT recorder of digital audio interface device that does not conform to standards and specifications that are either in the technical reference document or established under an order by the Secretary of Commerce. Section 3(b) prohibits circumvention of the serial copy management system. The legislation targets the sale of "black boxes" and computer programs or services whose purpose or effect is to bypass the system.

Subsection (c) exempts professional model DAT recorders from the legislation to ensure that recording professionals, such as musicians and broadcasters, can purchase DAT recorders that are not limited in their recording capability. The section also defines criteria for determining what is a "professional model digital audio tape recorder," to be able to prevent others from marketing professional devices to consumers.

Subsection (d) forbids the encoding of phonorecords with inaccurate information relating to the status of the source material so as to improperly affect the operation of the system. It does not, however, require encoding of the phonorecord with respect to its copyright status.

In like manner, subsection (e) requires the transmission, performance, or other digital communication to the public of a sound recording in a manner that reproduces the coding contained in the digital subcode accompanying the prerecorded music.

Section 4 describes the manner in which the SCM system is to be implemented in DAT recorders. Subsection (a) states that the Register of Copyrights shall publish the technical reference document in the Federal Register within 10 days after the bill has been enacted.

Subsection (b) gives the Secretary of Commerce, after consulting with the Register of Copyrights, broad authority to issue an order to implement the SCMS. In the first proviso, the Secretary is given the flexibility to permit in commerce DAT recorders with the functional characteristics of SCMS that do not meet the standards and specifications in the technical reference document. The second gives the Secretary the flexibility to permit in commerce DAT recorders that meet new standards and specifications, should present ones become obsolete. The third provision allows the Secretary to approve SCMS-like standards and specifications to analog source material.

Section 5 prescribes remedies for violation of the terms of Section 3. Unlike the Copyright Act, which relies primarily on private civil enforcement, subsection (b) permits the Attorney General of the United States or "any aggrieved person" to bring civil action in district court.

Subsection (b) gives the court authority to grant injunctions, direct the recovery of costs, including awarding reasonable attorney's fees, and grant other reasonable equitable relief.

Under Subsection (c), an aggrieved person has the choice of recovering actual or damages, subject to a $1 million limit. A court can make an additional award of up to $5 million for willful violation, or can limit the award of damages, for innocent violation of the act, to no more than $250. The court may also impound devices under subsection (d).

Subsection (e) limits the authority of the court to issue a temporary or preliminary injunction against distributors of professional model DAT recorders unless the devices clearly could not in good faith have been labeled as professional models.

Subsection (f) permits the court to order the remedial modification or, if such is not possible, the destruction of a device or phonorecord that violates section 3 and has been either impounded under the act or is in the custody of a violator.

IV. ARGUMENTS FOR AND AGAINST SCMS LEGISLATION

A. Pros

1. Congress asked the parties to work out a compromise; they have struck a practical one.

2. The compromise is an interim measure; one of its components paves the way to agree on other formats, thus solving for Congress actual problems as well as potential problems before they erupt.

3. The consumer's ability to tape is not significantly restricted.

4. Except for the music composers and publishers and the members of their coalition, the affected organized interests now favor the bill. Although in a limited way, music publishers had an opportunity to participate in the meetings leading up to the RIAA/EIA agreement. When Congress considered the DAT Copycode system, the major domestic parties for and against the legislation were the RIAA on the one side and HRCC and EIA on the other. These parties now agree.

Performers do not speak in a single voice. These artists also make creative contributions and would be harmed just as would composers and publishers, if not more. Their income from recorded performances is wholly dependent on sales. This is not to say that there is no opposition to this bill among performers. One performer group was formed, in fact, to oppose the 1987 DAT bill. However, it was balanced by another performer group that supported the legislation.[14]

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[14] See Roll Call, April 5, 1990, for a similar split among performers.

5. Although not unanimous, a broad spectrum of interests representing European and Japanese manufacturers, international federation of record producers, some performers, (including performer-producer-composers, such as Zappa and Wonder), and groups representing the public interest have reached international consensus across interest groups.

6. The agreement between the two industries is basically self-executing, with built in flexibility to allow for adjustments; the government would not be involved in administering the system.

A system that does not involve government administration is preferred. Flexibility is built into the system so that alternatives can be accommodated if SCMS proves unworkable. SCMS also accommodates the possibility that a better system may be developed, for example, one that will enable control of analog tapes in the same manner. The Secretary of Commerce would publish regulations implementing SCMS and the Register of Copyrights would publish technical standards, amounting to administrative oversight rather than intense developmental work. SCMS represents a _fait accompli_ seeking governmental imprimatur.

7. SCMS is a better system than Copycode; it does not engage audible channels, so it cannot affect the quality of the recorded sound.

The copy-inhibiting mechanism in a DAT recorder containing the SCMS is placed on subcode, thereby neither altering the frequencies at which the music is heard nor affecting it in any way. As I understand it, information-inhibiting copying is captured from the sound recording before the sound information is transmitted.

8. As a result of the agreement, the new generation of machines will make the best technology exploiting the full capacity of the DAT recorder -- digital-to-digital taping -- available to the American public.

Contrary to first-generation DAT recorders, the current generation contains the same sampling [15] (reproduction) rate for playback as for recording.

The standard CD sampling rate is 44.1 kHz per second. Earlier (1987) generations of DAT recorders recorded at 48 or 32 kHz, requiring the recorder to convert the CD signal back into analog, resampling the analog signal digitally as it was recorded on DAT. This rendered the resultant product a generation in quality behind the original CD that was recorded. For the first time, manufacturers are able to introduce DAT technology that has not been hobbled by intentional degradation that affects the sound.

B. Cons

1. Although the agreement is said to be an interim solution, the legislation appears permanent. This is in contrast to Copycode legislation, which was to have remained in effect, initially at least, for three years.

2. Given the semipermanent appearance of the agreement, all first generation copies may hereafter be bound by the system. Thus, any copy made from an original CD, DAT, or broadcast may be forever exempted from liability for home copying. It would seem even more difficult to move to compensatory arrangements after so many years of statutory exemption from

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[15] See, Fleischmann, "The Impact of Digital Technology on Copyright Law," 70 Journal of the Patent and Trademark Office Society, 17-18 (January 1988).

liability. For instance, the jukebox experience is informative. That exemption lasted for nearly 70 years, and 12 years after the exemption was abolished, attitudinal resistance still exists among some jukebox operators.

3. The immediate benefit of this agreement to recording companies is not readily apparent. What do the recording companies get? The potential agreement on erasable and recordable compact disc (CD-E and CD-R) may prove illusory, if the DAT agreement only paves the way for arguing that custom and usage supports continued first generation exemption of digital to digital copying. Since RIAA has not retracted its former position that DAT displaces sales of original material, a technical fix without a royalty component remains an incomplete solution.

4. If this agreement represents the wishes of the recording and electronics industries, they are free to implement it without involving Congress. Their market position would appear secure no matter whether several small companies fall in line or not.

5. American authors and composers receive no revenue from the digital audiotapes made by private copying, yet their right to compensation is the primary means of fulfilling the constitutional purpose of copyright — to encourage authors to continue creating. Authors and copyright owners will still receive no royalties generated by this agreement, whatever it may lead to in terms of dual inventory distribution, including copyable DATs and CDs. The major complaint against DAT recorders remains unanswered. There are no indications that sound recording sales will be any less endangered if SCMS is implemented.

6. Authors and composers have not been consulted. Although copyright proprietors in many instances contribute some creative input as well, no one should lose sight of fact that the agreement has been made by those whose primary role is to market, to package music after the fundamental work has been created, and to sell devices to duplicate that music.

The copyright law does not discriminate among minor and major contributions to copyrighted works. Thus, those who refine musical contributions are also authors. But the goal of home taping, obviously, is to hear and rehear recorded music. So all concerns, and especially the views of composers, arrangers and performers, should be accommodated at this interim stage.

7. SCMS is unlike any system in place internationally, where royalties are the norm. It may not generate royalties from abroad, since, national treatment notwithstanding, de facto entitlement to royalties often depends on reciprocity. If the United States, as the country of origin, has no royalty agreement, American authors will be ineligible for royalties from home recordings made abroad.

8. SCMS permits unlimited copying of a CD or prerecorded DAT. The OTA study showed that the greatest proportion of home copying is now done from CDs and vinyl records, with 28% being made from cassettes. Assuming that at least some of these cassettes are original prerecorded cassettes, this adds up to an overwhelming majority of taping from original sources, potentially cutting in half current revenue from mechanical reproduction and sales. CDs and prerecorded DATs will become masters.

V. ECONOMIC ANALYSES

A. The Brennan Analysis

Several studies on the economics of home taping have started from the premise that copyright owners need to be able to control reproduction of their works so that the economic rewards they receive will provide them with sufficient incentive to continue producing works the public values. The views which follow, discussing the advisability of a royalty solution to the home taping problem, are those of economic commentator Brennan.[16] Uncompensated home taping reduces demand and therefore affects the prices that composers can charge for their works. In a market where unauthorized reproduction is impossible, the composer could charge a fee commensurate with the value the user places on the work.[17]

A royalty system is not without drawbacks. Unless specifically crafted to avoid such effects, those using digital audio tapes for non-infringing purposes will pay as if they were producing copyrighted music. Thus, the royalty may become a disincentive to such use. If one attempted to define two categories of tapes -- one for speech and noncopyrighted material and another for music -- individuals and manufacturers would no doubt be able to circumvent them easily. Thus a distinction between business and private use based on assumptions that people employ different qualities of tapes for each use may be unworkable.[18]

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16. Brennan, "An Economic Look at Taxing Home Audio Taping," Journal of Broadcasting & Electronic Media, Volume 32, Number, 1, Winter 1988, pp. 89-103.

17. Brennan, 90.

18. Brennan, 92-93.

Moreover, royalty rates would remain constant regardless of different kinds of use. This does not take into account different consumers' habits: some tape for substitution purposes -- perhaps to give recordings to friends, etc; others duplicate for enhancement purposes--to make a tape for use in a different location -- the car, or a different configuration -- a Walkman, or to customize a tape by compiling selections of favorite songs from different albums. Even though a composer may want to charge additional fees for this enhanced value, it might be argued that the royalty should not be the same as it would for overt substitution. [19]

On the one hand, the additional cost of making the music available to an additional person through home taping is zero -- the home taper supplies the labor and raw material. On the other, the copyright system rewards the composer with added revenue when additional persons receive copies of the author's work. Unauthorized taping therefore represents expected earnings lost, possibly affecting the long-run cost to the listening public, the beneficial owners of copyright, authors and creative artists, and the legal owners of copyright, publishers and record companies. [20]

Furthermore, practical problems emanate from questions of how the revenues are to be distributed. Generally, antitrust immunity, coupled with collective agreements with organizations in the performing rights area, such as ASCAP or BMI, has worked well for creators. But for more comparable experience, information could be obtained from home taping systems in

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[19] Brennan, 94-95.

[20] Brennan, 96.

Europe. Such information would be relevant, quite apart from questions of the advisability of a royalty system itself.

The question arises: If royalties are desirable, who should pay them? Aside from charging them to the consumer, there appears to be no alternative. If there is less than full competition, record companies with excess profits might absorb the royalty costs. However, a seller who absorbs the cost of royalties without offsetting profits will incur losses, and may eventually have to withdraw from the market. [21]

"The purpose of royalties is to tighten the link between the value listeners place on copyrighted works and the returns to composers," according to Brennan, who, though not endorsing royalties, goes on to acknowledge that "It is as proper for consumers to pay for copyright music they value as it is for them to pay for other commodities they desire." [22]

B. Office of Technology Assessment Study: Effects of a Ban on Home Taping

The Office of Technology Assessment (OTA) studied copyright and home copying in the context of the status of the law both domestically and internationally, the policy alternatives available to Congress, and the economic effects of a hypothetical ban on audio home copying. How can one put a price tag on enjoyment of musical works? OTA economists measured enjoyment, placing a price tag on society's satisfaction. To do this, the economist Mannering used "compensating variations" to measure how much money a consumer would have to receive after a hypothetical ban on copying to be as satisfied as before the ban. Using a compensating variation of $1.62, Mannering concluded that the consumer would have to be paid $16.20 to be as well off, in the short term, as before the ban took place.

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[21] Brennan, 101.

[22] Brennan, p. 101.

From a copyright perspective, this data suggests that consumers might pay an additional fee for making near-perfect copies via DAT if not for all home taping. If consumers pay royalties on DAT hardware or software, such payments would constitute some degree of compensation for lost royalties that authors, composers, and creative artists would have earned had copies of their works been sold by record companies. Otherwise, it appears that creative professionals are simply subsidizing the general public. The copyright system should provide economic rewards for authors who contribute intellectual property for the benefit of society. The works are then added to the public domain when the term of copyright protection expires.

It must be noted that the OTA study projected the effect of a home taping ban on consumer welfare in the short term, that is, for about one year. For this period, the OTA examined the effects on three constituencies if home taping is banned. It found that 1) recording industry revenues would increase; 2) blank tape sales would decrease; and 3) consumer economic welfare would decrease. Although the OTA seems to treat all three parties as equally entitled to the benefits of copyright property, consideration of beneficial and legal copyright ownership strongly suggests that this is not the case.

The OTA admitted that choosing an appropriate balance of harms between consumers and copyright proprietors is a political decision, not a technical one, and one in which the public has a stake. If the public places any value on homemade tapes, the benefit of any financial reward in exchange for that value should go to the persons who originated the property, and who are responsible for contributing the value the public derives from it.

The OTA concluded that

> [A]lthough home taping may reduce the recording industry revenues, a ban on home audio taping would be even more harmful to consumers, and would result in an outright loss of benefits to society, at least in the short term [in the $2-3 billion range.] The longer term consequences of such a ban are less clear, and would depend on [a variety of factors.] [23]

The OTA also urges that the effect of a taping ban on industry and consumers must be given careful consideration in policy formulation. They caution that it is potentially misleading to base policy on a simple estimate of one of several harms or benefits. [24] This caveat appears inconsistent with two-hundred-year old copyright theory.

Significantly, OTA considers "short term" to mean over approximately one year. Thus these predictions cover a period of time that is of limited value to a consideration of legislation over a longer term. It is also significant that no real question of a technological ban on home taping is before Congress. Home taping does not result, moreover, in certain manufacturing and distribution costs pro tanto for the homemade recordings consumers make themselves, although such home taping certainly reduces unit sales of legitimate phonorecords, causing per unit costs to increase. Though recording companies own the copyright to the intellectual property in the sound recording, the majority of their costs are not associated with intellectual property. The costs relate to manufacturing, distribution, packaging, artwork, vinyl, paper, and other raw material. Congress, however, may want to consider the effect of near-perfect home taping on a more vulnerable group: composers and talent, whose mechanical and per-record royalties account for an estimated average of 15% of the total cost of making an original recording.

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[23] U.S. Congress, Office of Technology Assessment, Copyright and Home Copying: Technology Challenges the Law, OTA-CIT-422, p. 207, (Washington, D.C.: U.S. Government Printing Office, October 1989).

[24] Id.

Will the benefit to the public from encouraging creative works, in terms of quality or a greater range of musical selections, outdistance the added cost to the consumer of audio recording devices and media if a royalty solution is adopted? Is the spirit of the copyright clause fulfilled by the partial SCMS solution to digital audio taping?

VI. INTERNATIONAL EXPERIENCE

A. Foreign Reaction to the SCMS Proposal

For the European Economic Commission ["EEC"], the Athens agreement is not a sufficient answer to the question of how to protect the holders of copyrights and neighboring rights from digital home copying.[25] Other technologies, such as recordable and erasable compact discs, loom on the horizon, and they feel that it is necessary to develop technical systems which cover these aspects of digital recording.

Additionally, the question of how to remunerate rightsholders remains unresolved. The EEC does not believe that levies are the best solution for digital home copying, but recognizes the necessity of paying for the use of protected works. Accordingly, the Commission has concluded that the best solution is a technical system which not only limits copying, but also ensures direct payment by the consumer for each digital copy made — for example, a credit card system.[26]

To prevent the delay of introducing digital technology, the time frame for the solution would probably be by the middle of 1990. And the EEC plans to propose a directive coordinating national levy schemes for private copying, limited to analog, and not digital, copying.[27]

Several other copyright interests have not been pleased with the SCMS system. The British Phonographic Industry approved the settlement, but members of its governing body were irritated because they had little input into the agreement.

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[25] Letter from Commissioner Bangemann, Vice President, EEC, to Ian Thomas, IFPI Secretariat (November 2, 1989) ["Bangemann letter"].

[26] Bangemann letter at 3.

[27] Bangemann letter at 3-4.

The International Federation of Phonogram and Videogram Producers had no immediate comment on the pact, but the managing director of the U.K. Mechanical Copyright Protection Society [28] noted that the SCMS system allows consumers to make unlimited first generation copies. He also observed that the agreement makes no provision for a levy, although under British law the private recording of copyrighted music must be paid for. [29]

The West German mechanical rights association, GEMA, also favors a levy on DAT recorders and tape over the suppression of technological development, and a board member said that the DAT agreement was a bitter pill to swallow in those countries where no levy exists on home taping devices. [30]

Similarly, the Japanese Society for Rights of Authors, Composers and Publishers ["JASRAC"] and the Japan Phonograph Record Association ["JPRA"] expressed concern about the agreement. The president of JASRAC said that the issue of private audio and video recording in Japan should be resolved by a system of royalty payments for authors and copyright owners similar to those existing in some European countries. The JPRA president declared that DAT should be discussed in a comprehensive manner with other

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28. MCPS, along with GEMA and JASRAC are members of BIEM, an international association comprised of 27 mechanical rights societies and agencies. BIEM does not endorse the Athens agreement or any other technological limitation which is not joined with royalty provisions.

29. K. Terry, "Even Label Assocs. Signal Dissent Int'l Groups Attack DAT Pact," Billboard, 1, 94 (August 26, 1989).

30. Id.

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systems like recordable and erasable compact discs. He also said that the agreement does not clarify how to protect the rights of authors and copyright owners, and called for the establishment of a royalty system prior to adoption of technical standards. [31]

Likewise, the Canadian Recording Industry Association ["CRIA"] warned that the DAT pact would retard CRIA's efforts to solve the home taping problem, since the Canadian government might wrongly assume that the issue had been satisfactorily resolved. [32]

Finally, the International Federation of the Phonographic Industry has said that it will continue to lobby governments and governmental bodies for remuneration for private copying through a royalty on blank analog and digital tapes and/or recording equipment. [33]

As part of the Athens agreement, the European hardware industry undertook to accept any political decision about royalties on blank DAT tapes and equipment. The signees of the pact formally agreed to "accept the principle of royalties and ... not oppose efforts by the recording industry to secure legislation to implement such royalties." By contrast, Japanese firms would only acknowledge that the issue is important to recording interests. They consented to "explore the feasibility of a technical mechanism or alternative system for private copying remuneration in future

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31. Id.

32. Id.

33. Id.

digital recording devices, although such a discussion would not constitute acceptance by the hardware industry of the principle of royalties." [34]

Philips, the Dutch conglomerate, has said that lawmaking is expected in the EEC within the next two to four years following the Athens agreement, but Philips declared that it was absolutely opposed to coupling the SCMS system with a royalty fee on tape. [35]

B. Foreign Private Copying Legislation

As of August 1989, there were fourteen countries with a royalty system on blank audio and video tapes: Australia, Austria, Federal Republic of Germany, Finland, France, Hungary, Iceland, Netherlands (pending final approval), Norway, Portugal, Spain, Sweden, Turkey and Zaire. [36] In this section, we survey selected countries to highlight their existing laws or pending proposals relating to royalties for home taping.

1. Australia

Australia legalized home audiotaping, and was the first English-speaking country to impose a blank tape levy. A nonprofit agency, monitored by the Australian Contemporary Music Development Company and with a board of directors chosen from the entertainment industry, administers the collection and distribution of the levy.

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[34] S. Dupler, "DAT Accord is Reached, but Questions Linger," Billboard, 1, 87 (August 5, 1989).

[35] "Widescreen TV Sets Due Next Year," Communications Daily (September 6, 1989).

[36] Australia's system is reciprocal only. The Federal Republic of Germany, Iceland, Norway and Spain have royalties on audio and video hardware.

The royalties are distributed on the basis of already existing systems designed to calculate the amount of sales and airplay of particular recordings. The amount of the levy is between 20 and 50 Australian cents per 60 minute cassette.[37] Most of the royalties are distributed to Australian artists and to countries that operate similar royalty systems.

2. Belgium

A proposed levy on blank tape in Belgium would be based on eight percent of the retail purchase price of the tape. Revenues would be divided into equal parts between authors, artists and manufacturers; another part would go to French, Flemish and German language communities to support artists and cultural institutions in each community. The proposal would also extend the copyright period from 50 to 70 years.

The Belgian federation of artists and manufacturers, Belgramex, wants the levy to be based on actual playing time of the tape rather than the retail price, and is also pushing for a levy on recording equipment. It has also lobbied to have the revenue paid to manufacturers, artists and authors, rather than the language communities. It will probably be some time before legislation is effective.

3. Canada

The 1924 Canadian Copyright Act provided for a compulsory license allowing recording companies to automatically obtain the right to record any song made and sold in Canada by paying a statutory royalty of two cents per playing surface.

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[37] Special exceptions are made for groups and individuals not using the tapes to copy protected music.

The new Act gives publishers the right to grant licenses on terms and at rates stipulated by them, or to refuse to issue mechanical licenses. The Act also provides a system to help writers and publishers negotiate and collect copyright fees. The former rate has been abolished, giving creators and record companies the opportunity to negotiate new rates. The new rate, effective until October 1990, is 5.25 Canadian cents per track for records sold after October 1, 1988. Works longer than five minutes receive an additional 1.05 cents for each minute or fraction thereof.

A second installment of copyright legislation is expected to address, among other issues, the home copying of records. A Canadian consumer survey shows strong support for compensation to copyright owners for home taping, with the heaviest tapers favoring a blank tape levy. [38]

4. France

In France, authors, performers and producers receive compensation for private reproduction of copyrighted recordings. By then end of 1986, the government had set a levy of 25 cents per hour of playing time for audiotapes. Seventy five percent of the income is distributed to individual right owners, 25 percent of which must be used for the promotion of audio/audiovisual productions and live performances. Proceeds of the levy [39] are paid to a collecting society, SACEM, to be distributed among various copyright holders: authors get one-half of the proceeds from the audiotape levy, with performers and producers sharing the remaining half equally between them.

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[38] Canadian Independent Record Production Association, A Study on Home Taping (1987).

[39] In 1988 alone, France collected $16,313,954.00 from the audiotape levy.

5. Hungary

In 1983, Hungary imposed a levy on blank tape equalling eight percent of a tape's selling price.

The revenue is distributed in the following manner: 50 percent to authors, 30 percent to performers [40] and 20 percent to producers of audio recordings.

6. Iceland

Since 1984, Iceland has had a levy on blank audio- and videotapes, as well as on the recording equipment: 10 Icelandic Kronen (approx. 19 cents) for audiotapes and 30 Kronen (approx. 57 cents) for videotapes. The levy on recording equipment is four percent of the import or manufacturing price.

Eighty five percent of the total revenue is distributed, with 15 percent going into a cultural fund supervised by the Ministry of Education. The proceeds from the audiotape levy are distributed to performing artists and producers (46 percent), music authors (46 percent) and lyric writers (8 percent).

7. Sweden

In Sweden, revenue from the blank tape tax goes to the government, which decides what to do with the funds. The rate for audiotape is 1.50 Swedish Kronen (approx. 23 cents), and the videotape rate is 15.00 Kronen (approx. $2.35).

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[40] Performers' shares are not individually distributed, but are instead used for social purposes. The Bureau for the Protection of Authors' Rights collects revenues from the levy then transfers the amount due performers to the Association of Hungarian Art Workers' Unions, which distributes the funds.

Two-thirds of the revenue is used for unspecified purposes, 80 percent of the remaining one-third goes into a cultural fund, and the remaining 20 percent is divided 40 percent to authors, 30 percent to performers [41] and 30 percent to producers.

8. United Kingdom

Under the new Copyright, Patent and Design Law of 1988, home taping is prohibited in Britain. However, the law does not impose a levy or tax on blank audio/or videotape.

The United Kingdom had formerly determined that the blank tape levy was the best solution to the home taping problem and promised to enact legislation. Two years later, the British government decided not to support the levy. In spite of consumer support, the U.K. Trade and Industry Minister had argued that the levy would put the greatest weight unfairly on consumers, that inequities would outweigh the benefits of the levy, and that there would be high administrative costs and the collection and distribution of proceeds would require a new bureaucracy. [42]

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[41] Performers' revenues are transferred to the performers' collection society, SAMI, which deducts one-half for administration costs.

[42] See M. Hennessey, ~~"U.K.~~ Poll Shows Consumers Favor Blank Tape Levy," Billboard, 64 (July 2, 1988).

The levy was supported by the British Music Copyright Reform Group ["Reform Group"], the British record industry and some consumers. A June 20, 1988 opinion poll showed that: 60 percent of consumers thought that an 18 cents per tape levy on blank tape was the best solution to the home taping problem; 15 percent supported having a spoiler device on prerecorded material; two percent favored prosecuting home tapers; and 23 percent had no opinion.

Additionally, more active home tapers were more likely to support the royalty solution, which legitimizes home taping.

The House of Commons approved the government amendment rejecting the levy provision on June 25, 1988. The British Music Copyright Reform Group then lobbied the EEC to adopt a levy solution, but to date the Commission allows each government to make its own choices on the issue. [43]

9. Federal Republic of Germany

West Germany has a levy system on both blank tape and hardware: 2.50 Deutschemarks (approx. $1.35) for audio recording equipment, 18 DM (approx. $9.78) for video equipment, .12 DM (approx. 6 cents) per hour of audiotape and .17 DM (approx. 9 cents) for videotape.

The revenue is distributed among various collection societies for music authors (42 percent), performers and producers (42 percent) and lyric authors (16 percent). The performance rights society, GVL, distributes 64 percent of the proceeds to performers and 36 percent to producers.

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[43] Commission of the European Communities, Green Paper on Copyright and the Challenge of Technology - Copyright Issues Requiring Immediate Action, COM (88) 172 final, Brussels (June 7, 1988).

VII. COPYRIGHT OFFICE QUESTIONS IN THE INTEREST OF ADVANCING THE DEBATE

The Copyright Office raises two questions regarding the international implications of the SCMS proposal. We do not have answers to these questions, but think the issues should be explored, and that their consideration will advance the public debate on the SCMS proposal.

1. Is the SCMS proposal incompatible with the Berne Convention?

With respect to the right of reproduction, article 9 of Berne states that

> (1) Authors of literary and artistic works protected by this Convention shall have the exclusive right of authorizing the reproduction of [literary, artistic, and musical] works, in any manner or form.
>
> (2) It shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author.

Commentary by the World Intellectual Property Organization (WIPO) Guide to Berne advises that

> It is a little more than child's play to make high quality recordings of . . . sound . . . from discs or cassettes (rerecording). . . . [comment regarding off-air taping]. The idea of a limitation to private use become less effective when copies can be made privately in large numbers. If practical considerations do not offer copyright owners and their successors in title a chance to exercise their exclusive right of reproduction, it has been suggested that a global compensation might be provided for them, and that the money might be raised by imposing a levy on the material

> (tape, etc.) on which the sounds and images are fixed, as well as on the apparatus for fixing.[44]

Even if the United States law regarding analog home taping is consistent with Berne, DAT arguably takes duplication to a higher level of danger for authors. Each consumer becomes in fact an independent producer, capable of making and distributing the same quality of tape as is available from retail stores. Is a partial technological solution, which does not compensate authors, compatible with Berne?

2. Will the Athens agreement come back to haunt us in future negotiations with our trading partners?

Both before and after Berne adherence, the United States has taken an increasingly forceful position toward encouraging higher standards of copyright protection through bilateral arrangements with foreign countries. It is not inconceivable that the United States Trade Representative would investigate the possibility of bringing a Section 301 action against unfair Japanese trade practices associated with importing DAT recorders into this country. This action would presumably have to be predicated on an unassailable domestic position, which includes compensation for authors and copyright owners. Is the Athens agreement a bad trade policy risk?

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44. World Intellectual Property Organization, Guide to the Berne Convention for the Protection of Literary and Artistic Works (Paris Act, 1971), pp. 54-56 (1978).

VIII. CLOSING OBSERVATIONS

1. Past philosophy has been to decide what the policies and principles are and then develop the technology to carry them out.

A St. Louis engineering designer who bid on the metrocard system claims he can manufacture a debit system that can be attached to anything. Congress should therefore not be stymied by the apparent lack of technology, nor should it allow present state-of-the-art to impede what it feels is the best policy. In space and defense programs at least, a contrary attitude would seem to threaten research and development conducive to discovery.

2. Fair use and public domain copying should not be restricted.

Fair use and publc domain copying concepts can be built into a legislative solution, if desired. Once the principle is agreed upon, Congress could devise a registry, similar to the Notices of Use required under pre-1978 copyright law that required copyright owners to record titles of musical compositions for which recordings had been authorized. In the same manner recording companies could be required to record titles, dates of creation, etc. — e.g., a "Notice of Intention to Encode" — in the Copyright Office. Alternatively, the information could be required to be carried in the subcode of the CD or DAT itself.

3. A comprehensive system is best.

For the sake of argument, allow me to assume the posture of an advocate. I believe that a comprehensive system, which takes account of the interests of the creative people, is best. I do not advocate a specific debit card system; any practical and economical system of allowing payment for unauthorized copying would be acceptable. The welfare of the music industry depends in large measure on the distribution of records, tapes, and CDs for home use.

A comprehensive solution will also benefit the U.S. public. They will have more music to enjoy, and the nontaping public will not have to pay higher prices for tapes and CDs to subsidize those who copy -- companies perforce charge higher prices for lost sales, absent protection against copying.

The SCMS proposal establishes the manufacturer's legal right to sell equipment that permits unlimited copying of a CD or a prerecorded DAT. This precedent-setting proposal for all digital audio formats would have far-reaching consequences. Its prejudicial effect on authors and copyright proprietors in the United States is multiplied for these parties in overseas markets.

It seems to me that a debit system would dramatically alter the landscape. Record and tape stores would be involved in collecting the fees for the system, and the consumer would pay in advance for any copies he or she wished to make, using the card in the machine to activate copying. The machine would automatically debit for the copy, and perhaps read specific information about the particular recording on the card. This would be a marketplace solution. It would require no government collection, distribution, or administrative oversight. And it would solve the problem forever, not just for the short haul. It also avoids the fatal political problem the blank tape royalty runs into -- how to exempt people who use the blank tape for non-infringing purposes. Under a debit system, people who record uncopyrighted material would pay nothing.

Under a debit system, composers, publishers, and other rightsholders whose works appear on sound recordings would get a percentage of the purchase price of the debit card. But if no legal basis is established for such payment at the outset, Congress may encounter formidable difficulty in doing so five or ten years hence.

Until Congress acts, moreover, the U.S. public may not get the prerecorded tapes they need to justify the expense of buying the DAT machine. A comprehensive solution will allow the technology to prosper, and all parties will benefit: the manufacturers, the recording companies, the creative artists, the composers, and the public.

Congress may wish to adhere to a comprehensive overall policy consistent with constitutional copyright policy to encourage authorship and at the same time share the benefits of intellectual property and technological advancement with the public.

To develop the necessary factual background, this may be an appropriate time to request a study of the operation of foreign royalty systems and of technical compensation options. I understand that a new round of negotiations has been suggested regarding a new product -- digital compact cassettes. Royalties will be discussed. This development confirms for me the wisdom of looking toward a comprehensive solution. Congress will be better able to assess the policy options at the conclusion of private sector negotiations.

Senator INOUYE. Mr. Oman, thank you very much. I think you have presented to us the parameters of a reasonable resolution of this matter, keeping in mind, as we have said, providing a piece of the action to our creative people.

You mentioned the European Community. I would gather from your testimony that European countries provide remuneration for home taping.

Mr. OMAN. Mr. Chairman, there are several that do, and the trend seems to be in that direction. I have a list of several countries that do provide the royalties. Some of them are in Europe, some in other parts of the world.

Senator INOUYE. Could you read them off, sir?

Mr. OMAN. I have already mentioned Australia. The other countries are Austria, the Federal Republic of Germany, Finland, France, Hungary, Iceland, the Netherlands, Norway, Portugal, Spain, Sweden, Turkey and Zaire. Several other countries are actively considering the possibility. The European Community itself, the Common Market, is actively considering a resolution that would bind all member countries, one that would require a royalty solution for the digital audiotape technology.

Senator INOUYE. If we do not include this remuneration in this measure, our composers and songwriters will be kept out?

Mr. OMAN. They will be left high and dry. Most of the systems that are being proposed require reciprocal protection in the country of the composer.

Senator INOUYE. You mentioned the debit system. How does that work?

Mr. OMAN. It is very much like the Metro card system in Washington where you go to a central location, buy a card for $10, and you use it until the value is used up, and then you go buy another one. The way it would work, there would be codings on the prerecorded tapes or on the compact discs that would deduct $.25 for each song that is recorded or $.50 for each album that is recorded. The figures can be worked out in technical discussions, but this is how it works. When you have recorded 20 songs at $.50 each, your card expires, and you go down and get a new one and you're ready to go for the next round of home taping. In this way the composers would be able to share in the home taping phenomenon.

Senator INOUYE. Is this debit system followed in any other place?

Mr. OMAN. No. As a matter of fact, the technology has to be willingly incorporated into the machines by the manufacturers, and they are hoping that the SCMS solution will solve their political problems. If in fact you do insist on a debit system, I think the technology is available for them to build that into the machines at the outset.

Senator INOUYE. Thank you very much.

Senator Gore.

Senator GORE. Thank you, Mr. Chairman. I will be very brief because I know we have a long witness list.

Let me just clarify the record, Mr. Oman. You are the person, as the Register of Copyrights at the Library of Congress, who is our leading authority and top ranking official on the subject of copyrights; correct? There is no one higher than you where the specialized law and principles relating to copyrights is concerned?

Mr. **Oman**. We do have the technical expertise, Senator.

Senator **Gore**. You are the person who sets the policy and makes the judgments? You are in charge of the copyright section, are you not?

Mr. **Oman**. Yes, I am.

Senator **Gore**. So I think it is especially important, then, that you would highlight the omission in this legislation of any protection of the copyrights for the creative artists who technically own the material that is to be performed on this new technology. That is really the most important part of your statement.

Would you say, based on your response to the Chairman's question concerning international initiatives on remuneration, that around the world as nations attempt to deal with these new challenges that come out of the technological developments the trend worldwide is now toward systems for protecting the copyright of songwriters when these new technologies are brought on line?

Mr. **Oman**. Senator, I think this is the trend. In many ways the United States is out of step with the rest of the world. I must confess that in my travels and my discussions with experts abroad, our European and Japanese trading partners cannot understand why the United States would be so remiss in protecting its own self-interests. They see this as perhaps a sense of noblesse oblige amongst the Americans that they fling open their markets and let all the world march through and require nothing in return in the way of protection for their own strengths and their own industries.

I suppose this is an American trait and one of which we are proud, but when we realize that we are doing that at the expense of the creators, the people who struggle to create beautiful things that make this technology attractive in the first place, we should question the wisdom of that one-sided approach to the problem.

Senator **Gore**. Mr. Chairman, part of making your case is knowing when to stop. I yield back my time.

Senator **Inouye**. Thank you.

Senator McCain.

Senator **McCain**. Thank you, Mr. Chairman.

Thank you, Mr. Oman, for your testimony here today. If I understand you correctly, you said that you strongly support the passage of this legislation with or without accommodation to the creators?

Mr. **Oman**. I did not use the word "strongly," Senator McCain, but I do support it as a step in the right direction. I think I qualified it by saying that I was taking that position with a sense of regret at the lost opportunity.

Senator **McCain**. If we pass this legislation without accommodating the songwriters and musicians, does that mean it would be very difficult to revisit this issue just on their behalf?

Mr. **Oman**. Well, as you know, Senator McCain, I have ten years experience working in the United States Senate on the staff of the Senate Judiciary Committee, and I know how difficult it is to get someone to refocus on an issue once it has been resolved.

My fear is that even though we are reserving the copyright issue, once the issue is laid to rest with the SCMS solution, Congress is not going to have an interest in returning to the problem for the foreseeable future.

Senator McCain. It then seems to me that any legislation we might pass should take into consideration an obvious major issue; that is, the compensation for songwriters and musicians.

Is it your position that we should not leave out that aspect of the issue when we consider legislation?

Mr. Oman. Well, as I said, Senator, it is my judgment that Congress will not return to the issue to take care of the interests of the composers and the publishers, but I cannot substitute my judgment for your judgment if you think otherwise.

Senator McCain. I do not.

Mr. Oman. That would then be a factor in your decision as to whether or not to enact a comprehensive solution now or to await a later date for the comprehensive solution which we all want.

Senator McCain. It seems to me we should have a comprehensive solution. What kind of a solution do you think is fair to the songwriters and musicians?

Mr. Oman. We have gone through the battles over a blanket home taping royalty in the past, and there are those who feel that a generic home taping bill would be a political dog that will not hunt, in the words of the Chairman of the House Judiciary Committee. In the analogy tape environment there are so many machines in existence, and so many noninfringing uses for the machines and for the tapes, to impose a royalty of $1 on a blank tape injures people who use the tapes for noninfringing purposes.

That is why I would favor for the new digital technology the debit card system, which would allow those who want to tape copyrighted materials to pay for that privilege, and no one else will be penalized.

Senator McCain. I am not sure how that works.

Mr. Oman. It is a technology that is currently available. It has not been applied in the home taping environment yet, but I think it could be. We have talked to experts in the field, and they maintain that it could be installed in the machines cheaply and easily and would be difficult to override. It would allow the home taper to go down to the local record store and buy a card for $10 which would allow $10 worth of home taping. There would be codes written into the software—into the prerecorded tapes and into the CDs—that would debit that card $.25 for every song that is recorded or $.50 for every song that is recorded. You could record an album for $2, and then when the $10 is used up, you would go down and get a new card and continue your taping activities without any limitation.

Senator McCain. One of the concerns the artist community has is that for most any fix you can put in electronics you can find some very smart person who can defeat it. Are you concerned about that?

Mr. Oman. It is a concern, but I think it is one that we can overcome by building the technology and the circuitry into the machine in such a way that it cannot be done easily. If someone wants to spend $50 for a codebreaking machine, they probably will be able to do that, but if under the copyright laws there is liability for home taping, that manufacturer of the codebreaking machine would be prevented from outwardly and openly advertising that machine because he would be liable as a contributory infringer.

That is not the case, however, until you do establish copyright liability.

Senator McCAIN. What is the cost of one of these?

Mr. OMAN. The prices I heard being bruited about in Chicago at the Consumer Electronic Show last week, or the week before last, was around $800, maybe $900. But I suspect that competition would drive the price down slightly.

Senator McCAIN. Obviously, over time, with mass consumption, the cost would go down significantly. It certainly has in every other device that we have come across, VCRs, et cetera.

Mr. OMAN. We wonder, though, with a cloud hanging over the technology, whether it will ever become mass produced. And that is one of the points I was making. That unless the entire community buys into this system, it may be just a dinosaur that has already outlived its usefulness and will never take off the way it should. It is a wonderful technology.

Senator McCAIN. Did you want to say something?

Ms. GIVENS. No, thank you.

Senator McCAIN. Thank you very much.

Thank you, Mr. Chairman.

Senator INOUYE. Senator Burns.

Senator BURNS. I have no questions.

Thank you, Mr. Chairman.

Senator INOUYE. Are you for the composers?

Senator BURNS. I am still trying to read my way through this.

Senator INOUYE. Senator Breaux.

Senator BREAUX. Thank you, Mr. Chairman. And thank you, Mr. Oman, for your testimony.

Do we have case decisions that say that home copying of music is illegal?

Mr. OMAN. Well, the machines have not been introduced yet, and we have not had this technology to challenge in court. There were no cases brought under the old machines, the analog machines. And I think there was a weaker case there. You were not making perfect copies. And that is an important aspect of whether or not the copy actually displaces a sale.

Senator BREAUX. So is there any law on the books or any court decisions that say home copying of music is illegal at the present time?

Mr. OMAN. No, there is not.

Senator BREAUX. Can you compare the issue that we are facing on audio recordings to the issue dealing with video recordings that we dealt with many years ago in the Congress? I know we heard many, many arguments that if we did not somehow prohibit the copying of the video movies by home recorders, that somehow the movie industry was going to go out of business. And we tried to address that. And the Supreme Court addressed it.

Mr. OMAN. "Civilization as we knew it would end," I think was the expression that was used.

Senator BREAUX. Is this a comparable analogy in a way, and if it is, what does it tell us?

Mr. OMAN. Well, Senator, I think the difficulty with that whole enterprise was that we were trying to legislate at the front end of the market, rather than after seeing how the market developed. As it turned out, in the video area, the marketplace is far different than it is in the audio area. It turned out that people did not really want to build a vast library of videotapes because they watch a movie once, and they do not want to watch it again.

But it is completely different with sound recordings. People listen to music over and over and over again. So the incentive to what we call library is great. And because of that distinction, I would say that the lessons that we have learned on the video side are not directly analogous on the audio side.

People do want to make audio tapes. They want to keep the tapes. They do not want to use it for time shifting purposes.

Senator **Breaux**. Let me ask one other question. One of the later witnesses will say that, in essence, that producers and writers will be protected by the proposed legislation, because it will require that all consumer model digital audio tape systems that are capable of recording must be configured with the SCMS system, which will allow a single generation of copies, but no more than that, and that it would frustrate anyone attempting to use one of these machines to make an additional copy of an album.

Is that not sufficient to protect the interest of writers?

Mr. **Oman**. As I mentioned, Senator, it is a step in the right direction. It does provide a limited degree of protection. But it does allow for the owner of a machine to make as many copies as he or she wants without limitation. If he or she has 20 friends, he or she could make 20 copies, give them away, and there are potentially 20 lost sales there. It is a limitation because those friends cannot make copies for their friends. But still, it has displaced many sales, and it is only from the sales that the composers benefit.

Senator **Breaux**. Did we not hear concerns expressed when original analogue cassette recording machines, not the sophisticated machines of the DAT systems, were introduced that if we did not do something at that time, then record sales would drop dramatically, and no artist would ever record or sell more than 10 million copies again? That really has not happened, has it?

Mr. **Oman**. Not in my experience, but of course with the compact disks, you do not have a record capability. And the analog copies that you make from the compact disks are greatly inferior to the compact disk. If there were a recordable feature on the CDs, I suspect that would be a different situation.

And I am speculating, of course, but I would think if we had had a comprehensive royalty solution in the compact disks, we would now have recordable CDs on the market already. And we would have the benefit of that new technology.

Senator **Breaux**. Well, are the serious violators of illegal copying the serious music listeners? Or are they similar to the example I gave of my 14-year-old daughter, copying and passing tapes around the neighborhood to her friends, who would not be that concerned about the sophisticated quality, but just the availability of the music?

Mr. **Oman**. That is why it is important, I think, to focus on this technology. Your daughter is taping in the analog mode. For each generation of copies there is a serious degradation in the quality. With the digital audio tape machine, every copy is as perfect as the original. And that is an extraordinary change in the market.

And we are not talking about the 50 million teenagers with boom boxes out there; we are talking about serious audiophiles who can afford to pay $1,000 for the machines, and are willing to pay a small amount to the creators who make the technology so attractive in the first place.

Senator **Breaux**. Thank you for your testimony.

Thank you, Mr. Chairman.

Senator **Inouye**. Senator Bryan.

Senator **Bryan**. Thank you, Mr. Chairman.

Recently I read that there was a good bit of technology being discussed and perhaps evolving that the CD itself may subsequently become recordable. I understand the distinction that you made about the level of quality ad infinitum with respect to the DAT, a feature that is not presently available for the serious audiophile on the CD. Do you have a sense, Mr. Oman, that a breakthrough point is very near, in terms of the technology?

It was in an article, and I cannot recall where I read it, but earlier this week, that CD technology is moving in that direction as well.

Mr. **Oman**. I think it is already to the point where it could be commercially exploited. And perhaps if we were able to resolve some of the sticky copyright problems it would be available to the American public. I have heard other people say that there is some hesitation to introduce the new technology because that would leapfrog the DAT technology, and they want to exploit that on the market for a period of time before offering another option to the American consumer.

Senator **Bryan**. Is it your view then that the CD technology that may be on the horizon is not being fully exploited because of the uncertainty of the comprehensive royalty issue?

Mr. **Oman**. I think that that element is certainly a factor that is considered in the equation. There are, of course, hundreds of reasons behind the decision to exploit a technology or not exploit a technology, but I do think that that is one of them.

Senator **Bryan**. Trying to put into context your testimony—I apologize, I got here late, I was at another meeting—it is my understanding that your preference would be this legislation, plus a comprehensive royalty provision included in it, am I correct, in terms of the premise?

Mr. **Oman**. That is essentially the position, yes, sir.

Senator **Bryan**. But recognizing that the royalty issue has historically raised a firestorm of political controversy in the Congress and has really prevented a solution to that, I take it that your fallback position is that this legislation, even without the comprehensive royalty inclusion, would be a step forward, and that you would support it, although that would not be your first preference?

Mr. **Oman**. Right, we do support the SCMS solution standing alone. But let me reiterate, Senator, if I could, that I do not think a royalty solution limited to DAT would raise that political firestorm. It is not being used by millions of people. It is a high-end technology. It is expensive. And this is the time to do it, I think, rather than wait 10 years down the road.

Senator **Bryan**. Mr. Oman, I thank you very much.

Mr. Chairman, thank you.

Senator INOUYE. Thank you very much, Mr. Oman.

Mr. OMAN. Thank you, Mr. Chairman.

Senator INOUYE. And now may I call upon Mr. Berman, Mr. Friel, Mr. Kondo, Mr. Feldman, and Mr. Greenspun.

Gentlemen, welcome. And now may I call on the president of the Recording Industry Association of America, Mr. Berman.

STATEMENT OF JASON BERMAN, PRESIDENT, RECORDING INDUSTRY ASSOCIATION OF AMERICA

Mr. BERMAN. Thank you, Mr. Chairman. It is good to be back before the Committee.

Mr. Chairman, members of the Subcommittee, my name is Jay Berman, and I am president of the Recording Industry Association of America. I am pleased to have the opportunity to appear before you today to urge support for an amended version of the Digital Audio Tape Recorder Act of 1990.

The draft amendment attached to my statement takes into account a recent technological development known as digital compact cassette, DCC, and provides an opportunity to study and respond to the implications of this new technology, while moving forward and dealing with the current situation involving the importation of DAT recorders.

I have with me, Mr. Chairman, a statement of support from the American Federation of Musicians, which I would like to have inserted in the record.

Senator INOUYE. Without objection, so ordered.

Mr. BERMAN. S. 2358 responds to DAT's serial copying capability, its ability to make infinite generations of copies that are just as good as the digital original from which that copy was made. The bill would require DAT recorders to contain serial copy management circuitry, SCMS, that would prevent the making of a second and subsequent generation digital copy of copyrighted music.

Obviously, S. 2358 does not represent a complete solution to the home taping problem. It does not prevent the making of first-generation copies. And until royalty legislation is enacted by the Congress, copyright owners will not be compensated for such copying.

In that regard, Mr. Chairman, I want to take pains to point out that it is not only the piece of the action that the music publishers and the song writers would get, the record companies would share in that piece of the action, which is true of every compensatory scheme around the world.

For the past decade RIAA has led the fight in Congress to secure such a royalty solution. We remain firmly convinced that a royalty system is an essential component of the fair and comprehensive solution over the long term. Unfortunately, in our negotiations with the hardware industry leading up to the agreement signed in Athens, Greece last year, we were not able to secure an agreement to go forward together in support of royalty legislation.

The European hardware representatives who participated in the negotiations committed themselves not to oppose attempts to secure royalty legislation, as was referred to by Senator Gore in his opening statement. The Japanese hardware representatives acknowledged for the first time the importance of royalties to the music industry, although they would not agree to drop their opposition to royalty legislation.

Despite this, we have been criticized by the so-called copyright coalition for having agreed to the compromise. You will notice, Mr. Chairman, I am one of the few witnesses here without a button. I am just not sure what button I should be wearing.

Those who have followed the DAT battle understand how disappointing these recriminations are. We went into these negotiations in 1988 faced with a grim situation. The music industry had been unable to overcome the manufacturers' opposition to royalties, and to Congress' as well.

Our proposed technological solution to the DAT copying problem, as was referred to earlier, the so-called copy code system, had gone nowhere. We, and the hardware manufacturers along with us, realize that this might be the most propitious moment for an attempted compromise.

With encouragement from members of Congress, among others, the worldwide recording and consumer electronics industries finally reached such a compromise. And in the end, the American music industry will gain substantially from these negotiations and will benefit in numerous ways from passage of this legislation.

First, S. 2358 eliminates DAT serial copying. Thus, the damage threatened by DAT will be reduced to roughly the same level as the analog copying that currently goes on. DAT digital copying will be limited to the ability to make high-quality, first-generation copies.

Secondly, enactment of S. 2358 would amount to congressional recognition that home taping is a serious problem that warrants a legislative response. This will lay the foundation for the music industry's efforts to achieve a comprehensive solution to the home taping problem.

In this regard, I want to mention, Mr. Chairman, that the notion that going forward on this bill would preclude Congress from addressing the larger issue of royalties I think is a non-issue. I do not believe that by taking this first step, and dealing with the imminent threat of the importation of DAT machines, Congress will forgo the opportunity to address the royalty issue in all of its complexity.

Third, the hardware manufacturers agreed to work with us to develop new technological approaches to deal with the home taping problem, including technology that will control copying on digital tape machines via the analogue inputs. We have already begun such talks.

Fourth, and perhaps the largest dividend, is the consumer electronics industry's agreement to discuss with us the copyright implications of future recording technologies, and one of which was referred to by Senator Bryan, the so-called recordable compact disk. It is in conjunction with these discussions on the recordable compact disk that the record industry has raised the issue of a debit system as an appropriate response for royalties. In fact, it gets away from the traditional notion that Congress has had that the problem with royalties is that it is a blunderbuss and that it encompasses within it noninfringing uses. The debit system, quite frankly, has the great advantage of having the punishment fit the crime.

One future technology, that happens to be with us at this very moment, is digital compact cassette—DCC. DCC machines are a new product that would permit consumers to record on and play a new type of digital cassette and to play their current collection of existing analogue cassettes on the same recorder. We have learned of DCC from Philips, the company that plans to market it, in the spirit of the Athens Agreement.

I might point out that this also represents a somewhat historic breakthrough in the relationship between the hardware and software industries. Historically, we were at the mercy of the introduction of technologies that reached our shores. Consumers began the practice and once that was done it was very difficult for Congress to get over that threshold and say to someone who was doing something, well, wait a second. You have either got to stop doing that, or you have to pay for it.

We did not know when we negotiated the Athens Agreement of the existence of DCC, and therefore we did not have an opportunity to consider whether SCMS would be the appropriate response for this particular technology. Thus, we feel that further discussions concerning the copyright implications of this new technology, as is contemplated by the terms of the Athens Agreement, are called for.

We believe that the subject of royalties should be included in such a discussion, and we would hope that this time the copyright coalition would agree to participate. Such discussions take time. Meanwhile, DAT machines are right now being readied for shipment to the United States. For this reason, it is important that Congress act swiftly to require SCMS in DAT recorders. We therefore recommend that S. 2358 be amended to apply only to DAT as specified in the technical standards established by the International Electrotechnical Commission. This would be consistent with the scope of MITI's recently-released guidelines in regard to the export of DAT recorders from Japan.

The proposed amendment attached to my statement would authorize the Secretary of Commerce to require SCMS in DCCs upon the joint petition by the affected parties, without the need for new legislation. This amendment will permit us to secure the protection we need with respect to DAT without pre-judging the appropriate approach to a new technology such as DCC.

I would like to address briefly some of the concerns that have been raised about this legislation. First, S. 2358 does not legalize home taping under U.S. copyright law. The legislation specifically provides in Section 8 that nothing in the act "creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under Title 17." Further, the findings introduced with the bill state, "This act does not address or affect the legality of private home copying under the copyright laws."

This language reflects an agreement to disagree with the hardware industry on the legality of home taping; in effect, holding that issue harmless until Congress is prepared to address it. Let me point out, Mr. Chairman, that the last time Congress addressed this issue in 1985, a bill was before a Subcommittee of the Senate Judiciary Committee under the leadership of its then-Chairman, Senator Mathias. That bill, in order to get it reported out alive to the full Committee so that it could stay alive, we had to drop the levy on blank tape and keep only the levy on the machines. As a result of that very, very little money would have been raised to compensate songwriters, composers and, yes, record companies.

Secondly, we understand that opponents of the legislation, the National Music Publishers and Songwriters, have been saying that they were excluded from the negotiations that led to this compromise. That simply is not true. We were in constant communication with both groups throughout the negotiations and we specifically invited NMPA and SGA to participate as observers, the same status in which other groups with equally important stakes in the outcome, such as the Electronics Industry Association of America and the International Music Publishers Organization, BIEM, were invited to participate, and actually did participate.

In this connection, I want to point out that the Songwriters' Guild had already accepted our invitation to attend Athens, and the only thing that I can understand is that maybe the music publishers were paying for the ticket, as a result of which neither one showed up. Had they attended, they would have seen that the observers—the so-called observers—acted as full participants in the negotiations.

Equally upsetting is the coalition's allegation that RIAA sold out in the Athens Agreement, because our member companies are owned by foreign hardware manufacturers. RIAA is comprised of over 50 American recording companies. Only two of them are affiliated with foreign consumer electronics companies, and only one of those with a Japanese company. None of these companies was in a position to approve or disapprove of the Athens Agreement on its own. The agreement was voted on by the entire RIAA board of directors and was approved.

It is important to understand, Mr. Chairman, that the Circle C Copyright Coalition actually has less at stake with respect to home taping than do record companies. Our only source of income is the sale of prerecorded music. Regardless of whether we sell a release, we still have recording and manufacturing costs and salaries for production, marketing, promotion and distribution of the product. We cannot afford to be so cavalier about the home taping issue as to ignore the opportunity to limit some home taping and recoup some of the otherwise lost income until we can secure compensation through a royalty scheme, a scheme we are still committed to.

To conclude, Mr. Chairman, Congress has, in S. 2358, the opportunity to protect our musical heritage and our musical future by preserving creative incentives within the framework of new technology, and congressional action on this legislation has implications beyond our borders as well. Measures similar to S. 2358 are now being considered by the European Community. I have a letter that I would like to have inserted into the record, Mr. Chairman, from a ranking official in the EC, which indicates its intention to adopt an SCMS requirement. Enactment of this legislation is essential to encourage our trading partners to implement comparable protection regimes abroad, and to complement the action recently taken by MITI which promulgated guidelines requiring SCMS in DAT recorders manufactured in Japan.

For all of these reasons, we urge your support for S. 2358. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF JASON S. BERMAN
PRESIDENT, RECORDING INDUSTRY ASSOCIATION OF AMERICA

BEFORE THE
SUBCOMMITTEE ON COMMUNICATIONS OF THE
SENATE COMMITTEE ON COMMERCE, SCIENCE,
AND TRANSPORTATION

S. 2358: THE DIGITAL AUDIO
TAPE RECORDER ACT OF 1990

JUNE 13, 1990

Mr. Chairman and members of the Subcommittee, my name is Jason S. Berman, and I am the President of the Recording Industry Association of America. RIAA is comprised of more than 50 American record companies. Our member companies produce and market about 92 percent of the prerecorded music sold in the United States.

I am pleased to have the opportunity to appear before you on the subject of digital audio tape ("DAT") and to urge your support for an amended version of S. 2358, the Digital Audio Tape Recorder Act of 1990. The draft amendment attached to my statement takes account of a recent technological development known as Digital Compact Cassette ("DCC") and provides an opportunity to study and take account of the implications of this new technology.

Attached to my statement is testimony in support of the bill from the American Federation of Musicians, which I offer for inclusion in the record.

THE HOME TAPING PROBLEM AND DAT

As you well know, Mr. Chairman, for many years, the music industry has been gravely concerned about the devastating impact of home taping on the economics of our industry. The harmful effects of home taping hit hardest those on the front lines of the music industry -- the musicians, producers, record retailers, songwriters, artists, music publishers and record companies -- whose livelihoods are directly dependent on sales of prerecorded music. The impact is most acutely felt by the record companies, even more so than other segments of the industry, because record sales are the companies' only source of income and because of the substantial investment they must make in each record without knowing in advance, of course, whether it will soar to the top of the charts or languish, unsold, in the retailers' racks.

Home taping presently displaces about one-third of the industry's sales. A report released last year by the Office of Technology Assessment concluded that one billion musical pieces are copied every year in this country.[1] Even conservative estimates of the extent of the damage caused by home taping calculate the lost revenues at nearly $1 billion per year. By any measure, the problem is bad enough with existing analog tape recording technology. About four years ago, however, there emerged a new technology, digital audio tape, that threatened to exacerbate the home taping problem unless Congress acted.

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[1] Attached, for inclusion in the record, is RIAA's analysis of and response to the Office of Technology Assessment's study, "Copyright & Home Copying: Technology Challenges the Law."

DAT is, in essence, the tape version of compact disc ("CD") technology. DAT machines record and play music that has been digitally encoded. The use of digital codes means that the musical sounds you hear when you play a DAT are remarkably pure and noise-free -- no static, no distortion.

The special threat that DAT poses from the music industry's perspective is that DAT machines will permit digital-to-digital home copying -- the transfer of digital codes from a digital original such as a CD or a prerecorded DAT onto a digital audio tape. The result will be a new copy -- a perfect clone -- with the same brilliant sound quality as the original. And every subsequent copy of that copy, whether the first, the hundredth, or the thousandth, will be just as perfect as the prerecorded original. This potential for making perfect clones from an original and for making exact copies of those perfect clones is unique to digital technology. In contrast, the sound quality of copies made on the analog audio cassette recorders that most people have in their homes today quickly degrades from one generation to the next so that analog serial copying has a built-in quality limitation that discourages it.

S. 2358: AN ESSENTIAL COMPROMISE

S. 2358 responds to DAT's serial copying capability. The bill would require DAT recorders to contain Serial Copy Management System ("SCMS") circuitry that would prevent the making of second and subsequent generation digital copies of copyrighted music -- no digital copies of digital copies.

Obviously, from the music industry's perspective, S. 2358 does not represent a complete solution to the home taping problem. S. 2358 does not prevent the making of first generation copies of copyrighted recordings, and, until royalty legislation is enacted, copyright owners will not be compensated for such copying. As you know, Mr. Chairman, for the past decade, RIAA has led the fight in Congress to secure royalties to compensate the music industry for the substantial losses attributable to home taping. We remain firmly convinced that a royalty system is an essential component of any long-term plan that seeks to treat the home taping problem equitably and comprehensively. Unfortunately, in the months of negotiations between representatives of the consumer electronics industry and representatives of the worldwide music industry, which culminated in an agreement signed in Athens, Greece in the summer of 1989, we were not able to secure agreement to go forward together in support of royalties.

Significantly, however, the representatives of the European consumer electronics industry who participated in the negotiations promised not to oppose our attempts to secure royalties in the future. Further, the Japanese representatives acknowledged, for the first time, that they understood the importance of royalties to the music industry, although they would not agree to drop their opposition to royalty legislation.

Despite the progress we have made, we have been criticized, sadly enough, by factions within the music industry -- the leadership of the National Music Publishers Association ("NMPA"), the Songwriters Guild of America ("SGA"), and the American Society of Composers, Authors and Performers ("ASCAP"), now operating under the name "© Copyright Coalition" -- for having agreed to compromise. Those who have followed the battle over DAT understand how disappointing and regrettable those recriminations are. As we went into the negotiations in 1988, we faced a situation that can only be described as grim. The music industry had been unable to overcome the manufacturers' opposition to royalties. Our proposed technological solutions to the DAT copying problem had gone nowhere. We, and the hardware manufacturers along with us, began to realize that hanging on tenaciously to our optimum positions -- standing in our respective corners and fighting over DAT -- was pointless.

Some people might say that the recording industry could have and should have let things sit right there where they were. "No machines in the U.S.; no problem," they might say. But we recognized the stalemate for what it was, and we understood the need to break the deadlock. It had never been the music industry's goal to keep DATs out of consumers' hands; our goal had been only to secure for ourselves a measure of fairness as a result of the unique copying capabilities of DAT. Moreover, DAT is only the first of many waves of digital home recording technologies. Perpetuating the impasse was in no one's interest -- short term or long term. The moment for compromise -- the moment to open a dialogue on the intellectual property ramifications of future technologies -- clearly had arrived.

With urging from the U.S. Administration, officials of the European Community, Members of Congress and many members of the Commerce Committee, Mr. Chairman, the worldwide recording and consumer electronics industries finally sat down to talk. We were encouraged to reach a compromise. In that spirit, both sides came to the table understanding that their respective aims could be advanced only by engaging in the process of give and take -- and by demonstrating a willingness to compromise.

THE BENEFITS TO THE MUSIC INDUSTRY FLOWING FROM THE COMPROMISE

The American music industry gained substantially from these negotiations and from the compromise that we reached in Athens. It stands to benefit in numerous ways from passage of this legislation.

First and foremost, S. 2358 eliminates DAT serial copying. This defuses the most uniquely dangerous threat posed by DAT. With the serial copying capability removed, the damage threatened by DAT would be reduced to roughly the same level as exists in the analog domain and is currently in practice across America -- the ability to make high quality first generation copies.

Second, enactment of S. 2358 would amount to congressional recognition, for the first time, that home taping is a serious problem that warrants a legislative response. Establishing that crucial premise would lay the foundation for the music industry's efforts to achieve a comprehensive solution to the home taping problem.

Third, the hardware manufacturers agreed to work with us to develop creative new technical approaches to deal with the home taping problem, including technology that will help control copying on digital tape machines via analog inputs. We have already begun exploring the many and varied technological options that would afford copyright holders such protection.

Fourth, and perhaps the largest dividend to accrue to the music industry as a result of the negotiation process, is the consumer electronics industry's agreement to sit down and talk with us about the copyright implications of future recording technologies before their introduction. This will provide us with the opportunity to devise and recommend to Congress a fair solution to the copyright issues raised by new technologies and to avoid the protracted battle that has accompanied introduction of DAT. For example, the trade press has been full of reports about the future introduction of several new recording technologies. One type, recordable and erasable CDs, will allow consumers to make home copies on CDs, giving them high quality sound on the most durable recording medium yet invented.

DIGITAL COMPACT CASSETTE TECHNOLOGY

Another future technology is digital compact cassette, which I mentioned at the outset of my statement, and whose development has led us to propose amending S. 2358.

First, what is DCC? As we understand it, DCC machines are a new product that will permit consumers to record on and play a new type of digital cassette and to play their collection of existing analog cassettes on that same machine. We learned of this new technology before its introduction, while it was still in the product development phase, from Philips, the company that is planning to market it, because of and within the framework of the Athens Agreement. We did not know of it, however, during the negotiations leading up to the Athens Agreement and, therefore, did not have the opportunity to consider whether SCMS was an appropriate legislative response to it.

We, therefore, believe that it would be appropriate for the parties that have an interest in DCC to convene, as they are already preparing to do with respect to recordable and erasable CDs, to discuss the copyright implications of this new technology, as contemplated in the Athens Agreement. We believe that the subject of royalties should be included in the agenda for such discussions, and we hope that this time the © Copyright Coalition will agree to participate.

Such discussions take time, of course. Meanwhile, DAT machines are right now being readied for shipment to the United States. For this reason, it is important that Congress act swiftly to require SCMS in these DAT recorders. We therefore recommend that S. 2358 be amended to apply only to DAT as specified in the technical standards established by the International Electrotechnical Commission. Under the proposed amendment, the Secretary of Commerce would have authority, upon joint petition by the affected parties, to extend the SCMS requirement to DCCs without the need for further legislation. As amended, the bill's coverage thus will be coextensive with the scope of the guidelines recently released by Japan's Ministry of International Trade and Industry requiring SCMS circuitry in DATs.

THE BROAD SUPPORT FOR S. 2358

We must be realistic about technology and the public demand for new products. The fact is that our industries are completely interdependent. Without our music, their products are worthless, but without their machines, no one can listen to our music. It is time for us to start working together.

This is why S. 2358 is supported by many organizations besides RIAA, including the American Federation of Musicians, the American Federation of Television and Radio Artists, the National Association of Recording Merchandisers, which represents the retailers, the Computer and Business Equipment Manufacturers Association, the Motion Picture Association of America, and the Department of Professional Employees of the AFL-CIO. A complete list of music industry organizations and others that support the legislation is attached to my statement. These groups see the legislation for what it is, a necessary compromise and a critical first step towards an overall solution to the home taping problem.

THE FALSE PROMISES OF THE OPPONENTS OF S. 2358

The opponents of this legislation in the leadership of NMPA, SGA and ASCAP have urged their members to press for defeat of S. 2358 on the ground that defeat increases the prospects for enactment of royalty legislation. This is a cruelly false promise.

The recording industry is acutely aware of the financial impact that home taping has on all segments of the music industry. Indeed, the record companies have even more at stake than the music publishers and songwriters because of the substantial investment that they make in each and every record and the enormous overhead that they must support through sales of their product. We continue to put artists in the studio, pay the musicians, producers, crew -- maintain the marketing, sales, promotion and distribution staffs and support the manufacturing plants, the trucks and shipping personnel -- all without knowing whether the record will be bought or taped. We agree that royalty legislation is the optimum solution, but we cannot afford to be so cavalier about the issue as to ignore the opportunity to limit some taping and preserve some portion of the otherwise lost income until we get everything we want.

The cynicism of NMPA and SGA is exposed in their private admissions that they share our grim assessment of the prospects for enacting royalty legislation without neutralizing the opposition of the hardware industry. Their only agenda is to defeat this bill to preserve the false hopes they have created in their members. Astonishingly, NMPA and SGA would rather have nothing than have the first-step, compromise legislation now before you.

THE NEED FOR CONGRESSIONAL ACTION ON S. 2358

Mr. Chairman, for years, the music industry and the consumer electronics industry fought over DAT.

Finally, at the urging of Congress, we sat down together and hammered out a compromise. It is not perfect from either side's perspective, but that is the nature of a compromise. We did our best to persuade all of our colleagues in the music industry, including NMPA, SGA and ASCAP, of the value of this important first step; all but they have come to agree that this is the best route to the industry's ultimate goal of fair compensation for home copying.

We seek your support for S. 2358, not merely for its significance in the context of DAT, but for the important groundwork that it lays for future compromises on thorny technological issues that will challenge and strain the copyright law.

We are fully cognizant that, since it is the threat to intellectual property posed by the new technology that gives rise to the music industry's concerns, it is ultimately intellectual property law that should govern the response. The legislation that we seek, therefore, does not attempt to devise the definitive resolution of either DAT or the home taping problem. Rather, it is intended to preserve the status quo, by putting DAT home taping on roughly the same footing as analog home taping, to give the affected parties and Congress breathing room to consider more comprehensive legislative solutions.

In the remainder of my time, Mr. Chairman, I would like to address some of the objections and concerns that have been raised about the legislation.

S. 2358 SIMPLY DOES NOT LEGALIZE OR LEGITIMIZE HOME TAPING UNDER THE COPYRIGHT LAW

Those who have followed the home taping debate between the music industry and the consumer electronics industry know that the two hold diametrically opposite views concerning the current state of the law on the legality of home taping. Our view is that the copyright law outlaws home copying; the hardware manufacturers, as you might expect, argue that the law sanctions home copying. Obviously, this was not a difference of opinion that we were going to be able to work out in the context of our negotiations on DAT. We agreed to disagree; we made no agreement, express or implied, to accede to the opposing view. We jointly concluded that our legislative compromise should not affect our divergent views on the legality of home taping, and S. 2358 specifically so provides: Section 8 states that, "Nothing in the Digital Audio Tape Recorder Act of 1990 creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under [Title 17]."

Further, in purely practical terms, it could not be clearer to anyone who has been following the process by which this legislation has evolved that, far from conferring any sort of "blessing" upon home taping, the bill limits home taping and operates as a first step to protect copyright holders. And nothing herein forecloses future enactment of royalty legislation. As we have repeatedly stated, we remain firmly committed to the adoption of royalty legislation as the optimum, ultimate solution to the home taping problem. We have no interest in closing the door to that prospect, and this legislation does not do so. In fact, the findings introduced with the bill state: "[T]his Act does not address or affect the legality of private home copying under the copyright laws," (Section 2(a)(13)) and that "[T]he enactment of this Act shall not prejudice consideration of whether or not royalties should be levied for private home copying of copyrighted music." (Section 2(a)(14)).

MUSIC INDUSTRY OPPONENTS OF THE BILL WERE NOT EXCLUDED FROM THE NEGOTIATIONS

We have been troubled to hear that opponents of the legislation in NMPA and SGA have been criticizing the process that led to this compromise by saying that key elements of the music industry -- namely, themselves -- were excluded from the negotiations. That is simply untrue. In addition to remaining in constant communication with these groups throughout the negotiations to discuss strategies and options, we specifically invited NMPA and SGA to participate as observers, the same status in which other groups with equally important stakes in the outcome, such as the Electronic Industries Association, were invited to participate and actually did participate. Unfortunately, that was unacceptable to them and only they declined to participate. Had they attended, they would have seen that the observers were full participants in the negotiations. The leadership of NMPA and SGA, regrettably, threw away an opportunity to be part of the process. It is ridiculous that they should now criticize the negotiations on the ground that they were excluded from them.

FOREIGN "DOMINANCE" OF THE U.S. RECORDING INDUSTRY: A RED HERRING

Equally upsetting are the © Copyright Coalition's allegations that RIAA "sold out" in the Athens Agreement and in this legislation because our member companies are owned and controlled by foreign hardware manufacturers. Let me set the record straight. RIAA is comprised of over 50 American record companies. Only four of them are affiliated with electronics companies overseas. Three of those are affiliated with a single European company and only one is associated with a Japanese company.

None of these companies was in a position to approve or veto the Athens Agreement on its own. The Agreement was voted on by the entire RIAA Board of Directors and approved. Our member companies' foreign connections had not one iota of influence in determining where we came out on this issue.

THE LEGISLATION DOES NOT FORECLOSE FUTURE ENACTMENT OF ROYALTY LEGISLATION

The © Copyright Coalition has asserted that the music industry will have only "one bite at the apple" on the home taping issue and that we should save that opportunity to pursue enactment of royalty legislation. We, by contrast, do not presume to say what Congress will or will not do. Congress has amply demonstrated its interest in the home taping problem and in forging a solution to it. There is no reason to believe that Congress' approval of this compromise -- which Congress urged the parties to reach, and which is acknowledged as only the first step toward a comprehensive solution to the problem -- would diminish the prospects for congressional consideration of measures aimed at a more complete solution. We think it insults the integrity of the Congress to suggest that this body would penalize us for reaching this unprecedented compromise by denying us further consideration of the issue.

CONCLUSION: THE NEED FOR ENACTMENT

The Serial Copy Management System does not respond to all of our home taping concerns. It is, however, an essential first step in the direction of protection for copyright holders against the home copying of their works. We seek your support as an endorsement of the negotiation process that we have undertaken at Congress' urging and as a signal of encouragement to the hardware manufacturers, our partners in the negotiations. Enactment of the legislation will underscore Congress' continuing concern over the home taping issue and send a message to the hardware manufacturers concerning the importance of their continued good faith participation in the negotiating process over emerging technologies.

Congressional action on this legislation has mplications beyond our borders as well. Measures imilar to S. 2358 are now being considered by the uropean Community. I have attached for inclusion in he record a letter indicating the EC's intention to ove forward with SCMS. Other nations naturally will look to the U.S., as the world's number one exporter of music, for leadership on this issue. Enactment of this legislation is essential to encourage our trading partners to implement comparable protection regimes abroad, and to complement the action recently taken by MITI, which promulgated guidelines requiring SCMS in DATs.

Congress has, in S. 2358, the opportunity to protect our musical heritage -- and our musical future -- by preserving creative incentives within the framework of a new technology. Enactment of S. 2358 will be significant not only for what it accomplishes with respect to DAT, but for what it signals about future technologies: that Congress welcomes and encourages stakeholders' joint efforts to frame proposals that reconcile new technologies with existing intellectual property rights. For all of these reasons, we urge your support for S. 2358.

Thank you, Mr. Chairman and members of the Subcommittee. I would be happy to answer any questions you may have.

Comments for the Official Record of the Hearing On
S. 2358, The Digital Audio Tape Recorder Act of 1990
Submitted by the Recording Industry Association of America to
The Committee on Commerce, Science and Transportation
Subcommittee on Communications
June 13, 1990

The Recording Industry Association of America (RIAA) is a trade association whose members create, manufacture and distribute more than 90 percent of the sound recordings in the United States. On behalf of our member companies, the RIAA has been advocating adequate and effective copyright protection for sound recordings since 1952.

Sound recordings, a form of intellectual property, are protected under Title 17 of the U.S. Code, which, among other rights, grants to copyright owners the exclusive rights to reproduce and distribute their protected works.

However, since the advent of home recording devices, consumers have had the ability to circumvent these fundamental rights without the authorization of, or compensation to, the copyright owners.

Efforts to restrict home recording of copyright protected music, or to mitigate the prejudice caused by home copying by providing fair compensation to American recording companies, artists, songwriters, music publishers and others, have been largely unsuccessful even though study after study, including a report released just last year by the Office of Technology Assessment concluded that home copying of copyright-protected material on conventional analog home recorders displaces significant amounts of sales annually. These efforts were steadfastly opposed by the manufacturers of recording equipment and blank tape.

It was against this background that RIAA joined with the international recording industry in a series of negotiations with representatives of the international consumer electronics industry that led to what has come to be called the "Athens Agreement." Part of that Agreement is before this Subcommittee in the form of S. 2358. S. 2358 should be regarded by the Subcommittee both as a positive first step toward overall protection against home copying on DAT recorders and a critical foundation for the continued negotiations between these two historically battling industries.

The testimony submitted by RIAA at the hearing covers many of the important issues surrounding the Digital Audio Tape (DAT) debate. In light of points raised by others at the hearing, however, we would like to call the Subcommittee's specific attention to elements of written testimony that refer to:

1. Background material on the impact of home taping on the music industry, submitted with the testimony of Jason S. Berman, President, RIAA;

2. A summary of the events leading up to the signing of the Athens Agreement;

3. The Athens Agreement -- What it promises;

4. The historic and continued RIAA support for royalties;

5. The participation of representatives of songwriters and music publishers in the negotiation process.

Other issues that were raised at the hearing warrant additional comment from RIAA. These Comments will focus on those issues.

A. Scope of the Bill

The Copyright Coalition claims that S. 2358 was inadequate because it imposed the serial copy management system only on DAT and did not address future recording technologies. The Copyright Coalition failed to point out that the representatives of the worldwide recording industry carved other technologies out of the Agreement in order to seek stronger protections for the music community as new technologies were considered.

The most obvious case in point is the Digital Compact Cassette (DCC) technology which we learned of a short time before the Senate hearing. As it became clear that this new technology would have been covered by the provisions of S. 2358, the RIAA and other music industry proponents of the legislation drafted an amendment that would have further narrowed the scope of the legislation to cover only that digital audio tape recorder that had been developed prior to the Athens meeting.

It was in the spirit of that Agreement that we sought to hold further discussions with the manufacturers so that appropriate protections could have been negotiated relating to DCC. Again, the Copyright Coalition was invited to attend these meetings.

B. The Serial Copy Management System

In its zeal to oppose this legislation, the Copyright Coalition misrepresented RIAA's advocacy of SCMS. Contrary to their claims, the music community interests supporting this legislation at no time characterized SCMS as a final, adequate or complete solution to the problem of unauthorized private copying.

In the context of emerging consumer audio recording devices, RIAA views SCMS as a first step toward gaining full recognition in the law that home taping in the digital domain must be satisfactorily addressed.

The issue raised at the hearing regarding the technical reliability and circumventability of SCMS is adequately addressed in the comments of the Home Recording Rights Coalition. We wish to associate ourselves with that particular section of their remarks.

C. The Trade Impact of S. 2358

Former Deputy United States Trade Representative Michael Smith's testimony in opposition to the legislation left several important gaps of fact.

First, former Ambassador Smith neglects to mention that RIAA has been and continues to be a strong leader in international efforts to strengthen protection of intellectual property in trade negotiations. An examination of Mr. Smith's testimony would leave a reader unfamiliar with the history of these efforts with the impression that the RIAA has taken a back seat in the international arena.

Second Mr. Smith alleges that, in discussions with his office when DAT was first introduced, representatives of the recording industry emphasized commercial "counterfeiting" concerns rather than home copying to support our desire to protect copyright owners from unlimited home taping through DAT. That is simply not true.

The RIAA maintains a staff of attorneys and investigators dedicated to combating the commercial piracy of our members' copyrighted sound recordings both domestically and internationally. Because of our efforts, the efforts of our international partners, and the cooperation of state and federal law enforcement officials, the U.S. Administration and Congress, laws have been strengthened across the country and around the world that deal with the problem of commercial piracy.

On a more practical level, in order for counterfeit DAT operations to be profitable, they must use state-of-the-art high speed duplicators to produce counterfeit recordings in a fraction of real time. Such technology is not yet available.

Accordingly, it is ludicrous for Mr. Smith to claim that our only concerns with respect to DAT were primarily because of commercial counterfeiting.

Third, Mr. Smith argues that the U.S. trade position will depend increasingly on intellectual property; a point on which the RIAA and Mr. Smith agree. However, he premises his opposition to S. 2358 on an argument that the legislation will mortgage that position. That simply is not true. Mr. Smith is led to an incorrect observation by confusing the issues of national treatment and reciprocity.

The former Ambassador mistakenly inferred that enactment of this legislation would prejudice the U.S. position that all intellectual property rights be subject to national treatment. National treatment, or the obligation to treat the copyrighted works of foreign nationals in the same manner as those of your own nationals, is a basic principle of fair trading and grows daily in importance with the establishment of rights falling outside of existing intellectual property treaties. The RIAA fully endorses the principle of national treatment, and views its continued vitality as critical to the adequate and effective protection of intellectual property. Because of this, the RIAA has led the fight for expanding the scope of the application of national treatment to all intellectual property rights within the GATT.

Mr. Smith's point was that U.S. copyright owners will be denied a share in the royalties collected in states that do not apply national treatment but subject payment to the principles of reciprocity -- i.e. will not allow foreign copyright owners to share in the revenue unless the foreign copyright owner's country of origin grants a reciprocal right. Mr. Smith is correct in asserting that this is prejudicial to the interest of U.S. copyright owners, including record companies as well as composers, performers, music publishers. For this reason, among others, RIAA fully supports the introduction of royalties in the United States. This is, however, irrelevant to the legislation before the Subcommittee. Quite simply, the SCMS legislation does not prejudice the U.S. or, for that matter, the RIAA position that all intellectual property rights be subject to national treatment.

Fourth, and in perhaps his most irresponsible and inflammatory testimony, Mr. Smith tried to raise Subcommittee fears that the legislation should be defeated because Japanese interests are claiming an undue influence on the U.S. government. He described how, in a sudden turn of events, Japanese Foreign Minister Nakayama "assured Ambassador Hills that the Japanese Government would seek Diet approval to meet U.S. demands" to expand the term of protection for sound recordings from 20 to 50 years. Ambassador Smith claims that this "sudden" turn of events was precipitated by a meeting between U.S. Trade Representative Carla

Hills and Sony Chairman Akio Morita at which Morita urged Ambassador Hills to "intensify her efforts because, Morita complained, the inadequate protection given U.S. recordings was causing CBS Records to lose a significant share of its rightful revenues from the Japanese market!"

In making that statement, Mr. Smith insulted the integrity of the very office he once represented. Further, it is a misrepresentation of the facts. The RIAA worked diligently with the U.S.T.R. and other government officials for more than two years to persuade the Japanese government to expand its term of protection for U.S. sound recordings. It was the RIAA that prepared a Section 301 complaint against the Japanese government. And, it was the RIAA that made several visits to Japan to leverage the change in Japanese policy, a change that benefited not only all of the U.S. record companies, but also U.S. music publishers, composers, performers and musicians who rely on the sale of phonorecords to generate revenue.

The remainder of Mr. Smith's testimony continues with similarly flawed reasoning. He concludes his testimony by citing a letter from Martin Bangemann, Vice President of the European Community, as evidence that the legislation should be defeated. Again, Mr. Smith neglects to paint the entire picture. Mr. Bangemann writes:

> "The Commission learned with great interest of the agreement between the hardware manufacturers and record producers in favour of the introduction of a technical system, namely the Serial Copy Management System, which allows control over the unlimited reproduction by means of digital audio tape recorders of works protected by copyright.
>
> "Such an agreement corresponds to the proposal contained in the Green Paper that unlimited digital copying should not be permitted and it is therefore an important and welcome first step. However, the agreement cannot be seen as providing a sufficient answer to the question of how to protect the holders of copyrights and neighbouring rights in respect of digital home copying."

The fact that the EC is considering additions to the SCMS proposal does not reduce support for the SCMS system. Indeed, as the RIAA works to enact this legislation, it has been expressly stated in meetings with staff and members of Congress, as well as in our testimony, that the RIAA views this legislation as a first step toward achieving fuller protection for rights holders, but that this legislation itself does not provide a final or comprehensive solution to the issue of digital home copying.

D. Some Policy Considerations on Royalties

It should be pointed out that royalty solutions for home copying are, from a legal and policy standpoint, only a second-best solution. A copyright owner's most fundamental right is to reproduce, or to authorize the reproduction of, the protected work.

The right of reproduction is exclusive. It is for authors to determine how that right should be exercised. This exclusive right necessarily embodies the right to prevent others from copying the work. Until now, technology for enforcing this right in a private context has not been available, and a practice of unauthorized reproduction has arisen as a consequence of that inability. Technological solutions allowing for such control, however, either exist or are on the horizon, and the use of such solutions would give substance to the author's exclusive reproduction right. The ability to make private copies is not, nor has it ever been, a "legitimate right" of the user, rather, it has been the result of the technical unenforceability of the reproduction right. Theoretically, a non-voluntary license to make private copies should not be available if the technology exists to give full meaning to the author's exclusive right.

Another proposal which was put forward at the hearing by the Register of Copyrights was the development of a "debit system." RIAA has been very interested in this concept. Our engineers have been reviewing alternative system ideas. Indeed, the Athens Agreement has a special provision providing for cooperation between the recording industry and the consumer electronics signatories.

E. Comments on Testimony by Philip Greenspun, President of Isosonics Corporation

In his testimony, Mr. Greenspun asserted that enactment of this legislation would create a Japanese monopoly on the SCMS technology. The fact is that the technology is not proprietary in nature. The specifics needed to implement the technology would be available through published information which the bill requires be printed in the Federal Register after enactment to any person or company of any nation, that desired to manufacture and market DAT recorders.

Senator INOUYE. Thank you, Mr. Berman.

Before proceeding, I would like to announce that the hearing record will be kept open for 30 days to give all of you an opportunity to submit testimony if you so wish, to make corrections and to provide addendums if necessary.

Our next witness is the Chairman of the Home Recording Rights Coalition, Mr. Thomas P. Friel.

STATEMENT OF THOMAS P. FRIEL, CHAIRMAN, HOME RECORDING RIGHTS COALITION

Mr. FRIEL. Thank you, Mr. Chairman. I want to clear up some of Jay's confusion first by awarding him this button, so that he knows what he stands for.

Mr. Chairman and members of the Subcommittee, my name is Tom Friel, and I am Vice President of the Consumer Electronics Group of the Electronic Industries Association. I am also Chairman of the Home Recording Rights Coalition. On behalf of the HRRC, I want to thank you for inviting me to testify today.

The Home Recording Rights Coalition includes companies involved in the manufacture, sale and distribution of audio and video equipment such as North American Philips, Panasonic, Sony and Tandy Corporation, and tape manufacturers such as 3M, Maxell, Memorex and TDK. Membership also includes many prominent trade associations and consumer groups such as the American Council of the Blind, the Electronic Industries Association, the National Association of Retail Dealers of America, and thousands of individual retailers and consumers.

The Home Recording Rights Coalition was formed in late 1981 in response to a lower court decision banning VCRs from the marketplace. Since then, we have fought to protect the rights of consumers to enjoy audio and video recorders in the privacy of their own homes.

Today, for the first time, we appear together with our historical legislative opponents asking Congress to support a compromise proposal. With West and East Germany on the brink of reunification, we cannot expect you to be impressed by RIAA and HRRC supporting a compromise after only nine years of struggle. Our cooperation on the DAT bill is, however, an achievement of which we can justifiably be proud.

Despite the use of sophisticated technology, S. 2358 is essentially a simple measure for a limited purpose. It requires all consumer model DATs to be equipped with a serial copy management system. SCMS allows consumers to make high quality, direct digital copies from compact discs and from other copyrighted digital sources. However, out of deference to recording industry concerns about making endless copies of copies, SCMS prevents consumer machines from making a digital copy of a DAT copy.

Mr. Chairman, recent announcements of the imminent availability of DATs equipped with SCMS in U.S. markets underscore the importance of passing this legislation. It might now seem logical to say, we have the machines, so who needs the legislation? We think it would be unwise to take such an attitude.

First, after years of controversy and uncertainty, the DAT format cries out for predictability and stability. So far, only one other government—Japan—requires its manufacturers to adhere to SCMS. The European Community has begun its own process to approve SCMS. If SCMS is not mandated in the United States, eventually manufacturers will offer DATs without SCMS, or with other incompatible copy management systems. We would be right back here where we started this whole controversy.

Second, the compromise reached by the electronics and the recording industries was one of process as well as substance. Cooperation in bringing new products and technology to the public is in everyone's interest, and we hope this legislation is a milestone along that road. Put simply, we need to ensure that all products from which a DAT recorder can record, including CD players, send signals to a DAT recorder that are compatible with SCMS.

Furthermore, we need to safeguard the consumer interest by ensuring that copyrighted material is properly encoded to perform first-generation digital copying as allowed by SCMS.

And finally, we need to outlaw attempts to bypass or circumvent SCMS without otherwise affecting copyright law.

Mr. Chairman, the DAT bill does all of these things. In making these pragmatic decisions to accept a compromise, HRRC, like the recording industry, has lost some allies along the way and has others gritting their teeth. We remain firmly and absolutely opposed to royalties, and would consider their addition fatal to the compromise represented by S. 2358. Indeed, the most vocal opponents of the DAT compromise apparently object not because of what the DAT bill says or does, but because the bill does not include royalty taxes on blank tape and recorders.

Ironically, in the past it has been those most strident in their opposition to new recording technologies that have profited most from them. Imagine that only a decade ago the movie industry actually tried to outlaw VCRs. $50 billion in home video software sales later, Hollywood is hardly complaining now. Likewise, in the early 1980s record companies told Congress that they would never again sell more than 10 million copies of an album because so many consumers would make home tapes instead. Yet home recorders spawned portable audio, car tape decks, boom boxes, Walkman-type head phones, and the record industry finally responded by releasing more albums on audio tape, and just a few years later Michael Jackson's "Thriller" sold 33 million copies.

The DAT bill's opponents make the same dire predictions today that have never come through about any other new recording product, yet they speak for an industry that has prospered during the age of the tape recorder. They have absolutely no evidence to justify their demands. Indeed, for almost a decade Congress has repeatedly rejected royalties. Last fall, Congress' Office of Technology Assessment gave it even more reason not to enact a royalty tax.

I discuss the OTA report on copyright and home copying in greater detail in my full statement. I also ask that an analysis of the OTA findings, prepared by HRRC consultant Steven Brennen, be included in the record of today's hearing.

Senator INOUYE. So ordered, it will be in the subcommittee files.

Mr. **Friel.** In brief, the OTA report convincingly establishes that consumers act responsibly and that new technology does not pose any threat to the recording industry. People typically tape albums for their own use. OTA found no evidence that home taping cost the music industry anything. On the contrary, it found that if people were not able to tape at home, they would not buy nearly as many albums.

In conclusion, Mr. Chairman, after almost a decade of fighting, the Home Recording Rights Coalition is proud to join with the recording industry in endorsing this legislation. Mr. Chairman, let us not compromise the compromise. S.2358 is a good and timely bill. We ask you not to let a few hardliners hold this legislation hostage to royalties.

Thank you.

[The statement follows:]

STATEMENT OF THOMAS P. FRIEL
for the
HOME RECORDING RIGHTS COALITION
In Support Of S. 2358

Before the
Subcommittee on Communications
Committee on Commerce, Science and Transportation
United States Senate

9:30 Wednesday, June 13, 1990

Mr. Chairman and Members of the Subcommittee, my name is Tom Friel. I am Group Vice President for the Consumer Electronics Group of the Electronic Industries Association. I am also Chairman of the Home Recording Rights Coalition. On behalf of the HRRC, I thank you for inviting me to testify today.

The Home Recording Rights Coalition and affiliated organizations have testified at more than a dozen Congressional hearings since the HRRC was formed in late 1981. Today, for the first time, we appear together with our historical legislative opponents, asking Congress to support a compromise proposal. We feel this fact, alone, gives special significance to today's hearing.

Two years ago, a joint appearance by the Home Recording Rights Coalition and the Recording Industry Association of America would have been unimaginable. Today, with West and

East Germany on the brink of reunification, we cannot necessarily expect you to be impressed by Jay Berman and Tom Friel supporting a compromise after only nine years of struggle. Our cooperation on the DAT Bill, S. 2358, is, however, an achievement of which we are justifiably proud pride.

Since December of 1981, the RIAA and the HRRC have been at loggerheads over the significance and effect of private home recorders in the hands of American consumers. We still are. But in the last several years, the broader debate has focused on a particular new product, digital audio tape recorders. The uncertainty and controversy over DAT has left the American consumer, and everyone else, very poorly served. After a previous legislative approach to DAT, which the HRRC opposed, was rejected, Senator DeConcini and others asked the recorder manufacturers and the record companies to attempt to sit down and negotiate a proposal that could be endorsed jointly by these industries.

The result was S. 2358, a very specific compromise bill that both the RIAA and the HRRC are able to support. This bill addresses the specific controversy that was generated by the emergence of the DAT; it does not address the broader and ongoing debate about copyright, and home taping between the HRRC and the RIAA. Nevertheless, like any compromise, it has generated some unhappiness on each side.

Despite the use of sophisticated technology, S. 2358 is essentially a simple measure for a limited purpose. It requires that all consumer model DATs capable of digital recording must be configured, by the means set forth in the companion Technical Reference Document, to allow a single generation of direct digital copies from Compact Discs and other copyrighted digital sources. In this way, consumers are able to enjoy new, digital technology by making high-quality copies. However, out of deference to recording industry concerns regarding possible serial copying, SCMS will frustrate anyone attempting to use a consumer machine to make a digital copy of a copy of an album.

The Recent Commercial Release of DATs With SCMS Underscores the Need to Pass S. 2358

Mr. Chairman, the recent announcements of the imminent commercial availability in U.S. markets of DATs equipped with SCMS underscore the importance of passing this legislation. I should stress that it is perfectly appropriate that manufacturers will be making these machines available to the public. HRRC believes strongly that home taping, and the sale of consumer recording equipment, are legal and constructive activities. History teaches that public familiarity with new products promotes confidence and political acceptance.

In the short run, it might seem logical for hardware interests now to say, "We have the machines, who needs the legislation?" But we do not think such an attitude would be in anyone's interest. First, we have stressed that the DAT format, after years of controversy and uncertainty, cries out for predictability and stability. So far, only one other government, Japan, is requiring its manufacturers to adhere to SCMS. The European community has begun its own process to approve SCMS. If SCMS is not adopted in the United States, it is only a matter of time until manufacturers based in the United States or elewhere will offer DAT recorders without SCMS or with different or incompatible copy management systems. The stability so important to retailers and record companies, as well as manufacturers, cannot be assured yet, and ultimately it may be lost.

Second, the compromise that the hardware and recording industries reached was one of process as well as one of substance. Cooperation in bringing new products and technology to the public is in everyone's interest, and we hope that this legislation is a milestone along that road.

Finally, we need the DAT Bill to

-- ensure that all products from which a DAT recorder can record including CD players, send signals to a DAT recorder that the recorder can understand;

-- safeguard consumer interests by ensuring that copyrighted music is properly coded to perform first generation digital copying, as allowed by SCMS; and

-- outlaw attempts to bypass or circumvent SCMS, with remedies for such unlawful conduct.

The DAT Bill does these things while carefully drawing a line between professional and consumer recorders, and leaving the copyright law unaffected.

Why the HRRC Accepted the DAT Bill Compromise

In our view private home taping was not a problem in 1981, is not one today, and does not appear to be one for the foreseeable future. In making this essential point, HRRC draws strong support and comfort from the report released late last year by the Office of Technology Assessment, which I will discuss in greater detail. Nevertheless, HRRC helped draft, and is strongly supporting, the DAT Bill. This legislation does represent a compromise of our long-held insistence that we would oppose any limitation whatsoever on home taping unless the proponents could present better evidence than they have to date.

In assessing the need for the DAT Bill, HRRC focused on the practical needs, as well as the strict rights, of consumers. In the last few years, for new technology to become established, it has often been necessary for both hardware and software suppliers to be comfortable with it. In the case of VCRs and standard analog audio cassettes, the software industries fought against the new formats, but they eventually heard the market calling them. Movie and record companies have since sold billions of dollars in new products to people who bought recorders. But in the last few years, the controversy and uncertainty that have greeted new products have indeed seemed to hurt not only the products, but the retailers and consumers who would buy them.

While HRRC remains firm in its adherence to principle, we recognize the potential benefit of software industry support for new formats. If the only way to earn the necessary trust and confidence in a new product is to work out technical approaches and recommend them to governments, we had better start learning now -- technology is not going to wait. In making the pragmatic decision to accept a compromise, HRRC, like the RIAA, has lost some allies and has others gritting their teeth. We feel we have gone quite a long way, in light of the fact that the basic legitimacy of consumer home taping is more strongly supported than ever before. Thus, we remain firmly and absolutely opposed to any royalty proposals and would consider any such addition fatal to the narrow compromise represented by S. 2358.

The DAT Bill Is Important to the Retail Industry and Consumers

HRRC believes strongly that the interests of consumers and small retailers in home recording are both legitimate and worth serving. We have heard from all parts of our membership about the importance of the DAT Bill.

HRRC includes Klay Anderson, of Salt Lake City, Utah, who insists he sold the very first DAT recorder in the United

States. He sells professional model DATs to artists, and as a sideline uses a professional DAT recorders to record chamber music for local choirs. Klay says that if the equipment were mass marketed, choirs could acquire their own DATs and make excellent recordings on their own.

Many electronics retailers own or manage their own businesses. They're worried that consumer electronics has not recently provided them with new high-tech products to entice their customers. They've been talking to customers about DAT technology for years. But so far the only result has been that people have stopped buying the more expensive conventional cassette decks.

HRRC also represents many record store retailers. Cassette tape is their most popular album format, despite its present reputation for lower quality. Record store owners know that introduction of the new DAT hardware will generate sales -- prerecorded albums and blank tape too -- keeping their business vibrant.

DAT is a big opportunity for the so-called "garage bands," the kids down the block who have not yet been "discovered" and cannot afford professional recording studios. With consumer DATs, amateur and unknown professional musicians will be able to make high quality "demo" tapes. At least one group has already attracted a following and a lucrative recording studio contract after mastering its first album on a digital audio tape recorder in a church hall.

The consumers, retailers and amateur musicians who support the DAT Bill are the "little guys" who have suffered from the controversy over DAT. Even with the arrival of new generation DATs in stores, they look to passage of the DAT Bill to lay controversy and uncertainty to rest.

The DAT Bill Is A Reasonable Compromise As to Capabilities of Consumer DAT Recorders

The DAT Bill, as a specific compromise, is carefully limited in its application. Section 3 governs the manufacture and distribution of DAT recorders and phonorecords, providing that no person may manufacture or distribute a DAT recorder or digital audio interface device that does not conform to the specifications set forth in the Technical Reference Document or by an order of the Secretary of Commerce.

Subsection (b) prohibits circumvention of SCMS. No person may manufacture or distribute a device, or offer to perform a service, the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent any program or circuit that implements, in whole or in part, SCMS in DAT recorders. Subsection (c) exempts professional model DAT recorders from coverage, according to a number of criteria as to what is a professional model. The intent is to ensure access to professional models by recording professionals such as musicians, recording studio engineers, broadcasters, and cable operators, but otherwise to prevent circumvention of

SCMS. The mis-coding of phonorecords is prohibited by subsection (d).

Section 4 provides the mechanism for requiring SCMS in DAT recorders and digital audio interface devices according to the Technical Reference Document, as published in the Federal Register. The Reference Document adopts certain of the standards proposed to the International Electrotechnical Commission (IEC) in "IEC 958: Digital Audio Interface" and "IEC XXX Part 6: Serial copy management system for consumer audio use DAT recorders."

Subsection (b) contains three "safety valve" mechanisms, all triggered upon petition of an interested party, by which the Secretary of Commerce may decide to adjust the method or scope of implementation of, but not the function of, SCMS. By this means, technical problems may be solved and technical improvements may be made without recourse to further legislation.

Section 5 sets the remedies for violations of the legislation. A common sense approach is taken, setting more severe penalties for violations that are clearly intentional.

Finally, the bill explicitly says that it leaves copyright law entirely unaffected.

Mr. Chairman, we think S. 2358 is a clean and effective bill. A great deal of constructive effort went into negotiating the delicate compromises that it represents.

Complaints About the DAT Bill, from Some Segments of the Creative Community, Are Belied by History

The most visible and vocal opponents of the DAT compromise have been organizations representing music publishers and songwriters. These organizations previously had been members of the coalition led by the RIAA. Apparently their main objection lies not in what the bill says or does, but in the fact that the bill does not address a certain subject: royalty taxes on blank tapes and recorders.

While HRRC was surprised at the emergence of such a splinter group, its substantive arguments are quite familiar -- we have heard them from our friends at RIAA for years, and have never been persuaded. Indeed, in only slightly different form, we have heard cries of doom about consumer home taping in general for a decade. Yet, those who cried the loudest have seemed, ultimately, to profit most from the new generations of consumer recording devices.

The Movie Industry Tried to Ban VCRs

Is it possible that only a decade ago the movie industry tried to ban the consumer VCR? Two movie studios actually pursued a lawsuit all the way to the Supreme Court in an effort initially aimed at keeping this product off the market. Even movie studio executives now admit that banning the VCR would have been a catastrophe for them.

When Hollywood moved its case to the Congress, it asked for a royalty tax on sales of consumer VCRs and blank tape. Otherwise, it was said, creators would go "uncompensated." In 1981, the newly formed Home Recording Rights Coalition supported those who answered that the VCR would be the best friend Hollywood ever had. At a hearing, Senator DeConcini observed that the movie industry did nothing to invent the VCR but stood to reap enormous profits from selling video movies. He asked whether the movie studios might consider paying royalties to hardware manufacturers on the machines that opened the new market for them. Fifty billion dollars later in home video software sales, this question should still confront any creative group that says a new product can only mean harm.

Video Rental Was Seen As A Big Threat

Only six years ago, Congress was told that movie production would grind to a halt if video stores were to continue renting video cassettes. For sixty years, the film industry had kept total commercial control of its films -- they were leased, almost never sold. When small video retailers had the idea of buying movies and then renting to retail customers, the film industry tried to change the copyright law to prohibit this practice.

HRRC backed the "little guys." Most of these approximately 10,000 video retailers owned very small businesses. They told Congress that the movie industry was trying to kill a goose that had just begun to lay its golden eggs. Hollywood said that its "creative community" would suffer without copyright control over home movie rental. Fortunately, Congress decided to wait and see if these fears were actually justified. Nowadays, of course, home video profits are probably the first consideration when investors and creators get together to participate in new film projects.

The Audio Cassette Recorder Brought The Recording Industry Out Of Its Worst Slump And Into Sustained Profitability

The recording and music industry similarly had grave concerns about the consumer audio tape recorder. The audio cassette recorder was invented by Philips as a business dictation device, still one of its primary uses. Electronics companies then adapted the product for higher fidelity recording. Audiophiles began to replace their open reel "tape decks" with cassette recorders. Eventually, a recorder manufacturer had the idea of selling prerecorded record albums on audio tape, as a tie-in with its recorders. But the recording industry itself resisted a format that was so tied to consumer recorders.

In the early 1980s, record companies told Congress that no recording artist would ever again sell more than ten million copies of any album, because so many consumers would make home tapes instead. Fortunately, some enlightened members of the industry recognised that home recorders actually meant the arrival of portable audio -- car stereo, boom box, and, finally, Walkman-type personal stereo -- and had created a phenomenal marketing opportunity. The industry did finally respond by releasing more albums on audio tape. Just a few years later, Michael Jackson's Thriller sold thirty-three million copies.

Today, thanks to the consumer high-fidelity tape recorder, music is everywhere and goes everywhere. The recording and music businesses are at unprecedented levels of prosperity. Even as we enter the age of the digital Compact Disc, the recording industry dervives half its revenue from selling albums on audio tape. People bought recorders initially to record, and still do, but as in the case of VCRs, they ultimately use the new format to play back new software products. With the passage of S. 2358, such synergy will extend into the digital age, to the benefit of everyone -- including the groups presently opposing this legislation.

The Copyright Coalition, in making the same dire predictions about DAT that have never come true about the other new recording products, claims to speak for the "little guys" allegedly being damaged by home taping. Yet it speaks for an industry that, like everyone else, has prospered during the age of the tape recorder.

For example, the first quarter of 1990 showed record profits for recorded music, music publishing, and related merchandise. MCA reported a 35.3% jump in "music entertainment" revenues compared to the same period last year. Time Warner's recorded music and music publishing division reported a 9.7% increase in sales and an even greater 12% increase in profits over the same period last year. HRRC cannot address whether creative artists are sharing adequately in this era of prosperity. We do know that no one is suffering as a result of consumers owning home tape recorders.

The OTA Findings Confirm That There Is No Case for a Royalty Tax

The Home Recording Rights Coalition has argued since 1981 that those who would deprive consumers of rights and impose taxes for private gain should bear a heavy burden of proof. For almost a decade, Congress has chosen repeatedly not to enact any royalty taxes. Last fall, Congress's Office of Technology Assessment gave Congress even more reason not to enact a royalty tax.

The OTA report on Copyright & Home Copying confirmed overwhelmingly that consumers have acted responsibly and that new technology does not pose any identifiable threat to the recording industry. Having lost nothing, the industry has no claim to a special tax as compensation. OTA found that:

- Most home tapes of prerecorded music are made from records the taper already owns and are for the taper's own use.

- The most common reason for home taping is "place shifting"; home tapers usually make tapes of their own records or CDs so that they can play them in their cars, Walkmans, or cassette players.

- Tapers also make tapes to preserve their album collections, to get better quality and longer playtimes, or to make personalized tapes of their favorite selections.

- Home taping to help others avoid purchasing a similar recording is not a common motivation for home taping. The OTA survey found that taping albums for other people is nothing more than a "marginal activity" for most home tapers.

- Because home taping often stimulates album sales, any theoretical loss in record sales is probably more than offset by the additional album purchases home taping generates. For example, home-made tapes often serve to promote new artists and recordings. In addition, the ability to tape encourages sales of recordings that can be copied for use in the car or portable tape player, or made into a customized "party" tape. In fact, over one-third (35%) of album purchasers bought their last record with the expectation of taping from it.

- Finally, OTA found no sign that home tapers abuse new advances in home technology. The availability of dual-cassette and high-speed dubbing technology has not generated additional home taping or increased the number of homemade tapes in the owners' collections. High technology thus far has not altered home taping behavior.

Adverse Consequences of Attacking Home Taping

- The OTA report concluded that an attack on home taping would be an attack on the music industry's best customers. Home tapers have a greater interest in music, listen to more music, and purchase more prerecorded music than nontapers. The consumers that invest in new recording technology are the same consumers that invest in prerecorded music.

- OTA found that even assuming some harm from home taping could be confirmed, a ban on home taping would involve a net loss to society of billions of dollars.

The OTA findings speak for themselves, and for us. Current home taping practices simply do not warrant any additional royalty tax, and there is no reason to believe that the availability of DAT technology will change this. The OTA survey confirmed that most consumers think current home taping practices should not be changed. Consumers agree almost universally that they do, and should, have the right to tape their own recordings for private, noncommercial purposes. A heavy majority would strongly oppose any legislation that would impose royalty taxes on blank tape or recorders.

The DAT Bill and Royalty Taxes Are Separate Subjects

Mr. Chairman, we agree with our RIAA colleagues that regardless of the merits of any royalty tax, the DAT bill is simply not the proper vehicle for reviving the old debate. It is possible to talk sense without always talking dollars.

The DAT bill is a narrowly drawn compromise measure that only addresses DAT. It does not affect home copying on conventional analog tape recorders. It does not change the legality of private home copying under copyright law. These were not oversights. To achieve the compromise that was requested by congressional leaders, we left to another day the broader issues raised by home taping.

S. 2358 is, itself, a significant accomplishment. It demonstrates that creators of consumer electronics and creators of music can work together to harness new high-tech products for everyone's benefit.

Conclusion

Mr. Chairman, after almost a decade of dispute with the recording industry, the Home Recording Rights Coalition is proud to present a joint legislative recommendation with our erstwhile rivals. Enactment of this legislation will help squelch any controversy and uncertainty surrounding DAT. Most important, enactment of the DAT Bill will help ensure that American consumers can relax and enjoy the new state-of-the-art digital technology.

We ask this subcommittee not to let a few hardliners hold this legislation hostage to the dubious case for a royalty tax. S. 2358 specifically says that it does not prejudice their positions about the legality of home taping or deprive anyone of a chance to argue for royalties in the future.

Mr. Chairman, please don't let anyone compromise our compromise. Especially now that DAT recorders with SCMS are headed for retail shelves, we hope that with your leadership and support, we can all look back to the day we put aside some controversy and came together to help enact the Digital Audio Tape Recorder Act of 1990.

Thank you.

HOME RECORDING RIGHTS COALITION

A COALITION OF CONSUMERS, RETAILERS AND MANUFACTURERS OF AUDIO AND VIDEO RECORDING PRODUCTS

July 16, 1990

The Honorable Daniel K. Inouye
Chairman
Subcommittee on Communications
Committee on Commerce, Science, and
Transportation
United States Senate
Hart Senate Office Building, Room 227
Washington, D.C. 20510

Dear Mr. Chairman:

At the close of your Subcommittee's June 13, 1990 hearing on S. 2358, The Digital Audio Tape Recorder Act of 1990, you invited interested parties to submit additional material for the hearing record. The Home Recording Rights Coalition was pleased to testify in support of S. 2358, and we are now pleased to submit further material pursuant to your request.

With the assistance of its consultants, HRRC has prepared a series of appendices to this letter addressing various issues discussed at the hearing. Below, we provide an executive summary of the appendices.

P.O. Box 33576, 1145 19th Street, N.W., Washington, DC 20033
800-282-TAPE

1. The OTA Study Supports the Legality of Home Taping and Destroys the Basis for Any Proposal to Impose Royalty Taxes on DAT Technology

Home taping is not a "problem" in need of a "solution." The constitutional basis of copyright is to secure new works for the public by fostering innovation. Advocates of royalty taxation should be able to demonstrate that home taping detracts from creativity by damaging the music industry. The evidence, however, is to the contrary.

a. There is No Basis for Applying Royalty Taxes to DAT Technology

Last fall's comprehensive and impartial OTA report, Copyright & Home Copying: Technology Challenges the Law, found that home taping has an identifiable stimulative effect on record sales. OTA was unable to confirm the allegations that, on balance, home taping harms the music business. And, the OTA found that any royalty tax would punish the music industry's best customers.

OTA confirmed findings of previous studies that more than half of all taping occasions are not even of copyrighted music. And, OTA found no evidence that changes in technology have changed or affected private home recording practices.

Proponents of a royalty tax suggest that the real beneficiaries would be struggling and aspiring artists and songwriters. Yet, impovershed artists would be the payers, not the payees, of royalties. Business arrangements within the music industry guarantee that the large record and publishing companies, and the superstars, would collect most of the "royalties," as they do now. The young artists who rely on recorders and buy a lot of tape would pay, like everyone else, to make the superstars more comfortable, and would receive little if anything in return.

There is no guarantee that the big businesses collecting these royalties would re-invest them in music at all. Nor is there any evidence that these hugely profitable businesses are in need of any organized public assistance.

b. The RIAA Response to the OTA Report: An Exercise in Selective Reviewing

Although the HRRC and the RIAA agree as to the need to enact S. 2358, they disagree as to the nature and significance of private home taping in general. Thus, RIAA has filed a dissenting view as to the OTA conclusions. This attempt to turn gold into dross is partial and selective. RIAA fails to shake OTA's basic conclusion that there is no evidence that law or public policy ought to be changed on account of private home taping.

RIAA suggests that, actually, OTA meant to say that home taping is an "alarming" problem requiring prompt resolution. But RIAA's evidence for this re-interpretation is partial, selective, and unconvincing. For example, RIAA seizes on answers to the most speculative and hypothetical questions, ignoring OTA's specific cautions to the contrary.

RIAA seizes on peoples' recognition that home taping may save money, but ignores the fact that only three percent of home tapers made their most recent tape for that reason. RIAA declares that home taping can have no stimulative effect on record purchases, ignoring OTA's definitive statement that it does. And, RIAA insists that "royalties" would be "workable and fair," despite OTA's finding that three out of every four recordings made at home do not involve copyrighted music.

c. Law and Legislative History Exempt Private Home Taping from Copyright

For almost two decades, Congress has recognized that home tapers are responsible citizens who do not contravene copyright. No legislation, legislative history, or judicial decision has put any cloud over this practice. In fact, legislative history shows that when the Congress overhauled the Copyright law it thought about home taping, and deliberately left it undisturbed. There is no sound basis for revisiting this decision.

In addition to its statutory protection, private home taping also qualifies as a "fair use" of a copyrighted work. The character of private home recording is personal and not profit oriented. It tends to be complementary to the enjoyment of works already purchased, and is primarily for the convenience and enhanced enjoyment of the purchaser. Much or most home taping is of products, or creates products, that are not available commercially. Thus, even if not protected by statute, private home taping would not contravene copyright law. No "remedy" is necessary or appropriate.

2. The Roper Survey Report of Consumer Home Taping and Projected DAT Use: Highly Suspect and Totally Unrealistic

The so-called Copyright Coalition hired the Roper Organization to perform a consumer survey to estimate the extent of home taping of prerecorded music and to project the level of such taping as might be performed on DATs. Curiously, the Copyright Coalition and Roper apparently made no effort to survey the practices of any of the thousands of people in the United States who already own DATs! Apparently, speculation in this respect is more useful to the Copyright Coalition than fact.

The Roper survey seems an encyclopedia of faults, flaws, biases, and omissions for which OTA, in deciding to launch its own project, criticized previous proprietary surveys.

a. The Roper Survey Cannot Have Any Credibility Whatsoever So Long As the Questionnaire Remains Undisclosed

Survey research used to support public policy positions should satisfy at least minimum quality criteria. The failure to release the Roper questionnaire is itself a fatal fault, and perhaps disguises other basic problems as well.

b. The Roper Survey's Methods of Projecting DAT Recorder Use Are Highly Suspect

The Roper survey bases its projected use of DAT recorders on hypothetical questions geared to produce gross overestimates of purchase and use behavior. The analyses employ an inflated subsample to produce inflated answers to hypothetical questions. The thousands in the United States who have purchased DATs since 1987 seem to have been deliberately ignored.

c. The Roper Data on Existing Taping Behavior Add Nothing to Current Knowledge

Much of the Roper data does in fact support several of the findings of the more carefully designed and fully reported OTA survey. Where the two reports differ significantly -- in their estimates of the incidence of exchanging tapes and purchase displacement -- the OTA findings are infinitely more credible.

d. Roper Nevertheless Found That Most Respondents Would Oppose a Royalty Tax

Despite stacking the deck with slanted and partial questions, Roper still had to report that only 39% of its respondents agreed that a "royalty" would be fair, while 49% disagreed! Apportioning the undecideds, even Roper has the royalty losing. OTA, with more careful and impartial questions, found that the American public is overwhelmingly comfortable with the fairness and reasonableness of its home taping practices, and totally unconvinced of any need to change the law.

3. The Copyright Coalition is Incorrect as to the Purported International Trend Toward a Royalty Tax and Any Trend Toward Reciprocity

Royalty tax proponents have lately seized on a new argument for a tax that neatly sidesteps the questions of necessity and fairness to American consumers. The argument goes: (1) the rest of the world is moving toward imposing royalties, so the United States should too; and (2) if the United States does not enact a royalty, U.S. artists will suffer as their shares from overseas levies are withheld.

This "don't let us be a hostage" approach, upon scrutiny, suffers in several respects. First, there is no mad rush toward royalty taxation. Most nations, developed and undeveloped, do not have royalty taxes. France and Germany do; Spain and the Netherlands may; the U.K. has decided firmly against one; and Sweden recently repealed its tax. Outside the European Community, only nine countries have levies, several of which are under attack.

Second, in some places the taxes have been enacted or proposed as naked subsidies to local artists. Of course there is no way the funds will be made available to the world-dominant U.S. music business -- they never were meant to be. If such funds had to be shared with U.S. artists, the "trend" toward enacting royalty taxes could see a sharp reversal.

Third, Australia is posed as the model of the nation that has enacted a tax and will not share its pool with our artists until we do. To receive a share of Australia's fund, we are supposed to change U.S. copyright law. But Australia's protect- the-locals approach is exactly what the GATT, and the Treaties of Friendship, Commerce & Navigation that the U.S. has with its major trading partners, are designed to avoid. The experts who have wrung their hands over the exclusion of U.S. artists from overseas levy pools surely know that any withholding of funds on a reciprocity basis is contrary to basic tenets of multilateral trade. They prefer, however, to point at Australia as a reason why U.S. law must be changed and American consumers must be taxed.

If other countries, or the United States, wish to enact domestic subsidies for the arts, this should not be done as a gloss on U.S. intellectual property law. Congress alone should determine what is appropriate under the U.S. copyright statute. The public domain is legally and constitutionally protected, and ought to be invaded only when the sacrifice of American consumers can be justified on the merits.

4. The Debit Card: Another Inappropriate Approach to Royalties

Technological fascination has attracted support for yet another cleaner, surgical approach to royalty taxation, the "debit card" approach. Consumers, like Metro riders, would have to buy cards that allow them to use their own tape recorders to tape their own albums. Although such a system is designed to avoid the criticism that royalty taxes on blank tapes and recorders are overbroad, in fact, a debit card system would be as unfair and unacceptable as any other royalty scheme. First, the true costs of a debit card system are unknown, because no one has designed or built one. It seems clear, though, that if the music business had to pay to design, build, incorporate, market, educate, police, and do everything else necessary to force the public to accept such a system, we would hear no more of the idea -- it could not possibly collect as much as this would cost. Thus, this idea is yet another of the schemes presented to the Congress that appear to make sense so long as someone else is paying.

The impracticalities of a debit card system are manifold. The basic concept is that consumers would have to purchase a card, which, depending on the amount paid, would have a certain number of recording units. They would then have to insert the card into the DAT recorder each time they wished to use their recorder to make copies of copyrighted material. After the units on the card were exhausted, it would have to be "recharged" or the consumer would have to purchase a new card. Imagine erecting a nationwide system of express-banking terminals, for the unique purpose of servicing debit cards! The expense and inconvenience are mind-boggling. One way or the other, these infrastructure costs would ultimately be passed on to all consumers -- so in the end, the debit system is as overbroad as any other royalty scheme.

Impracticality aside, the proposals overlook two fundamental facts: a glitzier approach to royalties does nothing to justify them; and the American public will simply never buy recorders equipped with a debit card system unless circumvention is assured. The Copyright Coalition presented extensive testimony about the purported ease of circumventing SCMS, which neither troubles nor interferes with usual, responsible behavior of consumers. In contrast, the debit card system would be enormously inconvenient and costly to consumers. Moreover, as OTA found, most Americans are very comfortable with the fairness of their home taping practices. Thus, consumers would be given every emotional and economic incentive to circumvent, fold, spindle and mutilate debit cards -- assuming, of course, that they would buy such recorders at all.

5. The Myth of SCMS Circumvention: The Absence of Any Incentive to Circumvent, the Technical Difficulty of Doing So and the Illegality of Circumvention

At the hearing, the Copyright Coalition demonstrated that a professional consulting engineer, after months of study, almost figured out how to circumvent SCMS. Now that SCMS-equipped DATs are available for retail sale, Mr. Wilson probably has found his mistake and designed a product that can, indeed, circumvent SCMS. If S. 2358 does not pass the

Congress, he would be free to go into business selling such a device to the public. That is why S. 2358 outlaws circumvention by such means. The fact is, however, that Mr. Wilson might be hard pressed to find many customers.

The functions of virtually any consumer electronics device -- cable TV converter boxes, home computers, etc. -- can be changed or "circumvented" by experts, "hackers," and commercial products. Whether this occurs or not is a matter of balancing law, enforcement, and incentives. The advantage of SCMS is that it is designed to accomodate, not flout, the reasonable practices of responsible consumers. Aside from the emotional gratification of a handful of hackers, there is little reason to expect that anyone will go to the very considerable lengths necessary to beat the system.

The only real danger of SCMS circumvention is the mass production of very cheap circumvention aids. Mr. Wilson's underestimation of what is necessary means his hypothetical product would not be so cheap as he thought. For most consumers, it would not be worth the investment to buy it and hook it up. The surest solution, however, is to pass S. 2358, which outlaws the sale of such products.

6. The Copyright Coalition's Members Were Invited to, But Boycotted, Athens

Members of the Copyright Coalition persist in claiming that they were delibrately excluded from the meeting in Athens at which the SCMS recommendations were agreed to, when the opposite is true. Not since the last election has so much mileage been gotten out of an empty chair.

The undersigned is in a unique position to prove the emptiness of this "exclusion" claim. When the circle of those in the international music and "hardware" industries working on joint recommendations to governments was expanded, the additional invitees, such as the Electronic Industries Association, were formally labeled "observers." On behalf of EIA, the undersigned attended anyway. Once in Athens, the label did not matter. In fact, the undersigned drafted significant parts of the agreement signed there (later ratified by the EIA, with the legislative recommendations endorsed by the HRRC).

At the hearing, Mr. Murphy added the additional claims that he could not have known that attendance in Athens would be rewarding, and that until the Athens meeting he was excluded from the process at the insistence of the "hardware" side. Neither claim stands up. Mr. Murphy, in continual communication with the IFPI and the RIAA, must have known, or been able to establish, his opportunities. And, the "hardware" side had proposed, in writing, that the circle of attendees be widened in time for the January meeting that preceded the Athens meeting. It was the IFPI that said no, wait for the next meeting.

As on many other issues, the Copyright Coalition has attacked process rather than substance. The attacks should fail, both as diversions and on their own terms.

Mr. Chairman, having reviewed the HRRC reply to the points raised by the Copyright Coalition, it is striking that not one was actually addressed to the provisions of S. 2358. The DAT Bill emerged from the hearing totally unscathed. We respectfully submit that all interests, especially those of the public, would be served by passing this excellent legislation out of your Subcommittee. HRRC will be pleased to debate the additional concerns of royalty tax proponents in any and all fora, as it has done for ten years.

The undersigned and the Home Recording Rights Coalition would be pleased to cooperate in providing any additional information to the Subcommittee.

Sincerely yours,

Gary Shapiro

Gary J. Shapiro
Group Vice President, EIA/CEG
Chairman, Home Recording
Rights Coalition

Appendices: 1/

1/ The appendices are in the subcommittee files.

Senator INOUYE. Thank you, Mr. Friehl.

I now call on the general manager of the Honolulu Audio Video, Mr. Kondo. Welcome, sir.

STATEMENT OF KEVIN KONDO, GENERAL MANAGER, HONOLULU AUDIO VIDEO, HONOLULU, HI

Mr. KONDO. Thank you, sir. Mr. Chairman and Members of the subcommittee, my name is Kevin Kondo. I am general manager of Honolulu Audio and Video in Honolulu, Hawaii. I am honored to be here today to testify before your subcommittee in support of the Digital Audio Tape Recorder Act of 1990. Because others will describe the specific provisions of the bill, I thought it would be most helpful for me to describe why enactment of this legislation is important to retailers, our businesses and our customers.

Let me begin on a personal note. In Hawaii music is an important part of our tradition, woven into the fabric of our holidays, our festivals and our daily life. My customers and I take great interest in new advances in technology that improve the sound quality of musical recordings, whether ethnic, religious, pop or new wave. That is why we have all been so excited to learn about the recent announcements of several electronics manufacturers. After years of controversy and uncertainty, we will soon be able to enjoy our favorite music on new DAT equipment.

DAT recorders are superior to most conventional analog tape recorders available today and offer higher quality to most of my customers. Quite simply, if it sounds better my customers want it. With DAT my customers will be able to buy albums on DAT tape of superb quality and make customized tapes of their favorite selections. In my view, only the enjoyment level, not purchasing or home taping practices, will change.

DAT offers still more. I have received the greatest number of inquiries about DAT from amateur musicians. They do not have access to the high quality recording studios in the mainland. DAT will allow them to make their own professional quality recordings at home on the islands. It will help tear down some of the barriers blocking access and recognition in the music community as local musicians make and edit their own demo tapes in state-of-the-art digital sound.

In addition, much of what the local musicians want to record ethnic Hawaiian music with no broad appeal. Most major record companies are not interested in this type of music yet. With DAT, the local music industry will have a high quality format in which to record and then distribute traditional music to a limited audience.

Although music is a passion for me, it is also a business. Consumer electronics retailing is based upon a simple premise. New products are the fuel that keeps our businesses running. Stereo equipment generally does not break down or wear out for several years, if ever. What keeps customers coming back is new developments in audio technology that allow them to expand and upgrade their stereo systems or to use existing technology in new and different ways.

Today business is pretty good for me and other retailers, but I am concerned by a trend. For several years now we have had no major new products to offer our customers. DAT is the next step in the progression to more capable digital products, but DAT got caught up in a political controversy just because it was new and better. Its introduction was delayed for several years. I am concerned that the same fate awaits other new products as well. Despite the delay, consumers still remain interested in DAT recorders, and I welcome the opportunity to sell this exciting new product. My customers have been asking about it and seem enthusiastic when they learn about the features DATs offer.

Let me be frank. Although I am delighted by the manufacturers' promises to ship attractively priced DAT recorders soon, I am still worried. The controversy and the uncertainty surrounding the introduction of DATs has cast a dark shadow over this new product that threatens potential sales. My business and my customers need two things: DAT recorders and the DAT bill. Once DATs are on the store shelves, my customers will be able to buy them, which would make me happy, and they will be able to play them, which will make them happy. The recording industry would enjoy increased sales in a new format as consumers replace and expand their analog cassette collections, which ought to make them happy.

Yet, with all the confusion about the DAT recorders we also need the DAT bill now more than ever to help lay some of the uncertainty to rest. Selling DAT recorders without the DAT bill would be like asking consumers to buy new merchandise without providing any guarantee. For consumers, the bill would provide some assurance that the DAT equipment they purchase will be compatible with companion products and software and that record companies will properly encode CDs, prerecorded DATs, to permit one generation of home recording on DAT. With hardware and software support, prices will come down and volume will go up.

Finally, let me share some basic common sense about home taping and DATs. It has been suggested that there should be a royalty tax on DAT tape and recorders. Despite the fanfare, the new DAT recorders do nothing different from traditional analog tape recorders. There is no reason to believe that the availability of DATs will turn my customers into uncontrollable audio pirates. Chances are, they will treat this new digital recorder like all the other audio equipment they purchase.

Royalty taxes are an entirely separate issue from DAT technology and the DAT bill. Just ask me and my customers. We are for the DAT bill and against any royalty tax.

In conclusion, DAT is a technology whose time has come. With DATs and the DAT bill, consumers, retailers and the music community will all profit. Mr. Chairman, with your leadership my fellow dealers and I and our customers in Hawaii look forward to the enactment of the DAT bill and the opportunity to enjoy DAT music as part of the digital decade.

Thank you and mihalo.

[The statement follows:]

STATEMENT OF KEVIN KONDO
GENERAL MANAGER, HONOLULU AUDIO VIDEO

Mr. Chairman and Members of the Subcommittee:

My name is Kevin Kondo. I am the General Manager of Honolulu Audio Video in Honolulu, Hawaii. I am honored to be here today to testify before your subcommittee in support of the Digital Audio Tape Recorder Act of 1990. I know that others will describe the specific provisions of the bill, its technical standards, and the historic compromise it represents. I thought it would be most helpful for me to describe why enactment of this legislation is important to retailers, our businesses, and our customers.

Let me begin on a personal note. In Hawaii, music is an integral part of our tradition, woven into the fabric of our holidays, our festivals and our daily life. My customers and I take great interest in new advances in technology that improve the sound quality of musical recordings, whether traditional, religious, pop, or "new wave." That is why we have all been so excited to learn about the recent announcements of several consumer electronics manufacturers: after years of controversy and uncertainty, we will soon be able to enjoy our favorite music on new digital audio tape or "DAT" equipment.

DAT recorders are superior to most conventional analog tape recorders available today and thus offer higher quality to most of my customers. Quite simply, if it sounds better, my customers want it. With DAT, my customers will be able to buy albums on DAT tape of superb quality and make customized tapes of their favorite selections. In my view, only the enjoyment level, not purchasing and home taping practices, will change.

But DAT offers still more. I have received the greatest number of inquiries about DAT from amateur musicians. They do not have access to the high quality recording studios on the mainland. DAT will allow them to make their own professional quality recordings at home on the islands. Even local professional musicians will be able to record their own works in their homes or clubs without having to worry about traveling to or paying the cost of recording in a professional studio. It is exciting to think that DAT technology can bring near-professional recording capabilities to aspiring musicians and songwriters. It will help tear down some of the barriers blocking access and recognition in the music community, as local musicians make and edit their own "demo" tapes in state-of-the-art digital sound and then send them to the mainland.

In addition, much of the music local musicians want to record is ethnic Hawaiian music with no broad appeal. Most major record companies are not interested in this type of music. Yet with DAT, the local music industry will have a high quality format on which to record and then distribute traditional music to a limited audience. Indeed, the Hawaii chapter of the American Federation of Musicians has strongly endorsed the DAT bill. Thus, we in Hawaii -- like retailers throughout the country -- see great benefits from the sale of DATs in the United States.

FINALLY -- A NEW GENERATION OF AUDIO EQUIPMENT

Although music is a passion, for me it is also a business. Consumer electronics retailing is based on a simple premise: new products are the fuel that keeps our business running. Stereo equipment generally does not break down or wear out for several years, if ever. What keeps customers coming back is new developments in audio technology that allow them to expand and upgrade their stereo systems, or to use existing technology in new and different ways. For example, in the 1960s everyone had record players. Then along came audio cassette tape technology. Consumers could plug them in to their stereos, record and preserve their vinyl records, and make tapes with customized selections of their favorite songs. The proliferation of "boom boxes" and the Walkman made this audio cassette technology more portable. And then came the Compact Disc. This generated a new wave of retail activity as customers discovered the superior quality of digital sound.

The introduction of each of these new products also spawned sales for an array of complementary products -- better speakers and cable for retailers; new records, tapes and CDs for the recording industry. Everyone, especially the consumer, profited from the availability of the new "hardware" and "software" products.

Today, business is still pretty good for me and other retailers. But I am concerned by a trend. For several years now, we have not had any significant new products to offer our customers. DAT is the next step in the progression to more capable, digital products. But DAT got caught up in a political controversy just because it was new and better. Its introduction was delayed for several years. I am concerned that the same fate awaits other new products as well. That makes enactment of the DAT bill all the more urgent.

Despite the delay, consumers still remain interested in DAT recorders for their high-quality digital sound, the ability to record, edit and playback, the convenience of the palm-sized cassette tape format, and the superiority of cassette tape technology over the laser "pick-up" of the Compact Disc. As an electronics retailer, I welcome the opportunity to sell this exciting new product. My customers have been asking about it, and seem enthusiastic when they learn about the features DATs offer.

But let me be frank. Although I am delighted by manufacturers' promises to ship DAT recorders soon -- and with initial price tags much lower than expected -- I am still worried. The controversy and uncertainty surrounding the introduction of DATs has cast a dark shadow over this new product. My customers have been waiting to upgrade their stereo systems with recordable digital audio tape for years. Yet the consumer confusion about the new DAT technology is no boon for business.

My business -- and my customers -- need two things: DAT recorders and the DAT bill. Once DATs are on the store shelves, my customers will be able to buy them, which would make me happy; and they will be able to play them, which would make them happy. And, the recording industry and the creative community would enjoy increased sales in a new format as consumers replace and expand their analog cassette collections, which ought to make them happy.

Yet, in light of all the controversy and uncertainty about the DAT recorders, we also need the DAT bill -- now more than ever -- to help lay some of the uncertainty to rest. Selling DAT recorders without the DAT bill would be like asking consumers to buy new merchandise without providing any guarantee. My customers need to know that DAT really is a format of their future. Other retailers and I need to know that machines manufactured in one country use the same technical standards as machines from any other country. Manufacturers need to know that by implementing the SCMS Serial Copy Management System they will be playing on a level field with their competitors. And, record companies need to know that SCMS circuitry will be required in all DAT recorders to prevent multi-generation serial copying of copyrighted works. From the consumer to the retailer to the recording artist, the DAT bill will guarantee that the DAT format fulfills its promise.

The DAT bill legislates internationally accepted standards for the DAT format. For consumers, the bill would provide some assurance that the DAT equipment they purchase will be compatible with companion products and software, and that record companies will properly encode CDs and prerecorded DATs to permit one generation of home recording on DAT. For retailers and worldwide manufacturers, the DAT bill would ensure that all digital audio tape products sold in the United States, regardless of the country of origin, would be required to adhere to a common set of technical standards. And recording companies, assured of the application of SCMS in DAT recorders, perhaps will finally have the confidence to release albums in the DAT format. With hardware and software support, prices will come down and volume will go up.

In short, the DAT bill will standardize the DAT format and will outlaw any unscrupulous attempts to circumvent these standards by manufacturers, recording companies or any other parties. Most important, the DAT bill will encourage all of us, including Congress, the consumer electronics industry, and the creative community, to keep working together to ensure that even newer and more advanced technology does not similarly wind up in limbo.

THE ROYALTY TAX SNAFU

Let me address one final point. Some members of the music community are trying to seize this opportunity to get a royalty tax on consumer blank tape and recording equipment. Don't let them mislead you. What their proposal means is that anyone buying blank tape or recording equipment -- for whatever purpose -- would be forced to pay an additional tax to songwriters and music publishers. That would mean that the music community would profit every time someone buys a blank tape to record a band playing its own songs. That would mean that the music community would get a double royalty and greater profits every time someone buys a blank tape to record an album or CD that they have already purchased so that they can play it in their car or portable tape player. They even would be collecting a royalty on customized tapes -- tapes that they do not offer for sale and thus for which they cannot claim lost sales.

I know you have heard all the claims about lost profits and about all the expert economic analyses, detailed consumer surveys, and government reports on the subject. Let me share some basic common sense about home taping and DATs. Despite the fanfare, the new DAT recorders do not do anything different from traditional analog tape recorders -- they just do it better than the decks owned by most consumers. There is no reason to believe that the availability of DATs will turn my customers into uncontrollable audio pirates. Chances are that they will treat this new digital recorder like all the other audio equipment they purchase. I speak to my customers all the time about why they buy recorders and how they use them. Some will use them to tape albums or CDs they already own to play in their cars. The rest will use them primarily for playback of prerecorded works.

Indeed, the type of customers who are going to invest in DAT technology are the type of customers who listen to and purchase the most prerecorded music. With the fantastic sound and the new DAT format, they probably will buy even more prerecorded music once DATs are marketed. For such a bonus, for a new round of album sales, the music community ought to be willing to pay the hardware manufacturers a royalty. Music publishers and songwriters certainly are not entitled to receive an additional royalty.

This new technology should therefore have no bearing on the royalty tax debate, one way or the other. Regardless of the arguments for or against a royalty tax, the DAT bill is simply not the proper vehicle for this debate. Royalty taxes are an entirely separate issue from the technical standards set forth in the DAT bill. Just ask me and my customers: we are for the DAT bill, and against any royalty tax.

In conclusion, Mr. Chairman, with DATs and the DAT bill, consumers, retailers and the music community will all profit. DAT is a technology whose time has come.

Mr. Chairman, with your leadership, my fellow dealers and I and our customers in Hawaii look forward to enactment of the DAT bill and the opportunity to enjoy DAT music as part of the digital decade.

Thank you.

Senator **Inouye**. Thank you very much, Mr. Kondo.

May I now call on Mr. Leonard Feldman of the Feldman Electronic Labs.

STATEMENT OF LEONARD FELDMAN, LEONARD FELDMAN ELECTRONIC LABS, GREAT NECK, NY

Mr. **Feldman**. Thank you, Mr. Chairman. My name is Leonard Feldman. I am an audio engineer and senior editor of "Audio Magazine" and a delegate from the United States to the International Electrotechnical Commission. The IEC is a world technical body that sets voluntary standards in the electrical and electronic field, including standards with respect to DAT. I have submitted written testimony which I trust will be accepted into the record.

Senator **Inouye**. Yes, sir. It will be made part of it.

Mr. **Feldman**. I am here today to demonstrate how the serial copy management system, or SCMS, operates in digital recorders. I am pleased to be demonstrating Sony and Panasonic DAT recorders already equipped with SCMS circuitry. To help you fully appreciate the sonic fidelity of digital music, we are using Polk speakers manufactured in Baltimore, Maryland and a receiver courtesy of the Tandy Corporation headquartered in Texas and one of its Radio Shack retailers.

Among other things, this demonstration should emphasize how American speaker and component manufacturers will also benefit from this marvelous new product, the DAT recorder. Now to help you understand how SCMS operates, we have prepared this diagram. I direct your attention to the second row of boxes beginning with the word "CD". We are going to make a direct digital recording of some copyrighted music from this CD.

Senator **Breaux**. Is that the 2 Live Crew record?

Mr. **Feldman**. First, I will have Mr. Finer place a blank DAT tape in the Panasonic DAT recorder. Now this first generation copy will be a perfect copy of the original. Through the marvels of this technology, the digital information contained in the compact disk can now be recorded directly onto the blank DAT tape. That digital information can then be converted into music much like a word processor or a computer converts zeroes and ones into words.

Marc, if you will begin the recording.

[A recording was made.]

Mr. **Feldman**. I think Mozart would be pleased if he could hear it.

We will now rewind the tape that is in the Panasonic DAT recorder. So that you can hear the marvelous quality of a DAT recording, we will now play back this first generation copy that we just recorded. Please listen.

[The recording was played.]

Mr. **Feldman**. Now because these machines are equipped with SCMS circuitry, the Sony DAT recorder will not be able to make a digital copy of the first copy. Please watch.

It is hard to see, but you will notice if you come closer that the word "prohibit" is flashing on and off. While the meters are moving, the level indicators are moving, no recording is taking place. The tape is not moving at all. In short, the Sony DAT recorder is refusing to make a second generation digital copy.

The same rule would apply, incidentally, if we make a digital recording from prerecorded DAT tape with copyrighted material, as represented by the top row in this chart. We could make a first generation copy, but we could not make a second generation digital copy of the copy. The same rule would apply, incidentally, for digital broadcast signals. In short, this system provides consumers with the ability to make a first generation digital copy of prerecorded copyrighted music for their own convenience but not to engage in the type of serial copying that has concerned the recording industry over the years. It does so without any effect on the quality of the prerecorded music.

In my view, everyone wins as a result of this reasonable compromise. With your help, consumers across the Nation will be able to enjoy this great new product.

I would be happy to answer any questions you might have now. Thank you.

(The statement follows:)

STATEMENT OF LEONARD FELDMAN

In Support of S. 2358

Before the
Subcommittee on Communications
Committee on Commerce, Science and Transportation
United States Senate

9:30 Wednesday, June 13, 1990

Mr. Chairman and members of the subcommittee, my name is Leonard Feldman. I am an audio engineer and a writer for a variety of consumer and trade publications dealing with the field of audio and electronics. I am also a senior editor of Audio Magazine and a Delegate from the United States to the International Electrotechnical Commission (IEC), a world technical body concerned with the setting of voluntary standards in the electrical and electronic fields. I thank you for inviting me to testify today.

About three years ago, Congress was presented with a proposed technological restriction on digital audio tape or "DAT" recorders. (I testified against it for the HRRC.) Congress chose not to pursue that legislation any further and suggested that members of the recording and hardware industries attempt to resolve their differences and present a new plan that was agreeable to both sides. The DAT Bill that is now before you, S. 2358, represents just such an agreement between the two sides. That agreement helped to make possible the recent announcement by several DAT manufacturers that after years of uncertainty and discord, DAT recorders finally will reach the United States consumer market in the next few weeks.

While I personally view this product announcement as a welcome one, it is only a first step. A more important step is represented by the legislation now before you, the Digital Audio Tape Recorder Act of 1990. This DAT Bill implements the right technological means to deliver the benefits of DAT in a compromise that serves the interests of consumers and the recording and hardware industries. This technological means which I will describe to you this morning consists of two sets of mandatory standards: a compatibility standard; and a Serial Copy Management System.

Let me elaborate on each of these points.

DAT Is An Important New Audio Technology

In the relatively brief history of sound recording, spanning not much more than a century, we have seen progress from Edison's cylinders, to 78 RPM recordings, to Long Playing or LP records and, most recently, to CDs or Compact Digital Audio Discs. Paralleling that progression, we have seen a transition from earliest open-reel tape recorders developed shortly after World War II, to analog cassette tape recorders and cassette tapes, and now to Digital Audio Tapes and DAT Recorders. DAT is the next natural step in sound reproduction on magnetic tape.

Just as Compact Discs, with their superior sound quality and absence of surface noise have enjoyed wide acceptance by the listening public, so too does DAT offer both sonic and practical advantages to its users and listeners. DAT tapes are much smaller than analog cassettes or Compact Discs. They can contain as much as 120 minutes of recorded material per tape. They are more convenient and easier to use, especially in automobiles where drivers have become accustomed to inserting a tape into a tape player without having to take their eyes off the road, Like CDs, DAT tapes are programmable -- you can select only those tracks that you want to hear and the DAT mechanism will find those selections much more rapidly than is the case with analog cassette tapes.

Most important, DAT tapes do not suffer from any sound degradation. They sound as good as the original master tapes from which they were made.

Professional recording engineers, musicians and broadcasters are using DAT and the results of these uses are already evident in the improved sound quality of radio broadcasts and recorded music. Without DAT, there is currently no consumer product available for consumers to record with the same high quality heard on Compact Discs. With DAT, consumers will gain tremendous opportunities for enjoyment of digital sound. DAT will give consumers improved quality of recorded home musical performances, and will enable them to make direct recordings of electronic musical instruments. It will enable them to preserve older analog recordings such as tapes of family history, family musical performances, and the like.

In addition, DAT recorders will enable consumers to record digital sounds from other digital products such as compact discs and electronic musical instruments. In the not too distant future there will be new products such as digital radio receivers, digital television sets, digital video recorders and digital microphones. Under the provisions of the DAT legislation before Congress, consumers will be able to record audio signals from all of these products directly onto digital tape with superb sound clarity. But to do so, these future products must be compatible with the technology used in DAT recorders.

The Importance of the DAT Compatibility Standard

If any one of you doubts the need for compatibility in consumer products, just imagine trying to drive a car where the gas pedal is on the left, the brake pedal is on the right, and you shift gears with your left hand. Unfortunately, there have been and are many instances in which consumers face similar problems of incompatibility. Recent examples include the Beta video recording format versus the VHS video recording format versus the even more recently introduced 8 millimeter video recording format; and the incompatibilities of software for Macintosh, Amiga, Atari and IBM-compatible computers.

Because DAT is capable of working compatibly with a wide variety of products, it would be of great value and extreme importance to consumers to be able to resolve in advance the technological means by which communication between these products could take place. That is precisely what the DAT Bill does. Part I of the Technical Reference Document accompanying the DAT Bill proposes a "Digital Audio Interface" standard that specifies the contents of digital audio signals that can be recorded by a consumer type DAT recorder. Implementation of this standard through enactment of the DAT Bill will make certain that the many present and potential digital audio products will all be able to record onto a DAT machine.

Likewise, this compatibility standard in the DAT Bill will help pave the way for these future technologies. Broadcasters in Europe and Japan have been experimenting with digital radio broadcasting. Digital broadcasting is an important future technology for the United States as well. The sooner the United States joins the effort to establish uniform standards, the sooner Americans will reap the economic and consumer benefits of all these technologies.

The Benefits of the SCMS Standard

The second standard that the DAT Bill introduces is SCMS, or Serial Copy Management System. The SCMS standard prevents serial copying -- that is, the making of copies from copies -- but at the same time it does not prevent consumers from making a first-generation copy from original recordings and broadcasts. The recording industry and hardware manufacturers agree among themselves that SCMS is a good solution for their concerns. But SCMS is also good for the public.

First, let me explain that SCMS is used only for consumer-type machines. It does not affect professional users of DAT. Second, with SCMS, consumers will be able to copy their own original tapes without restriction. Third, consumers will be able to record first-generation copies from broadcasts or pre-recorded commercial sources. SCMS only prevents making copies from copies.

How SCMS Works

While the technology of SCMS is fairly sophisticated, it works reliably and, by its very nature, is not easily circumvented. SCMS utilizes a system of digital codes that are not associated with the digital sound data. It in no way affects the recorded audio quality.

When SCMS is implemented, one digital code, known as the "C-Bit," is sent to the DAT recorder and indicates whether copyright protection is being asserted in connection with the source material. Another code, called the "L-Bit," indicates whether the source is an original recording (such as a commercially pre-recorded CD or DAT tape or broadcast), or whether the source is a copy. Finally, another code indicates where the signal is coming from, such as a CD player, another DAT recorder, a radio broadcast, etc.

The DAT recorder reads these codes, interpreting them and reacting accordingly. If no copyright has been asserted for the source, SCMS will allow the DAT recorder to record, regardless of whether the source is an original or a copy. If copyright protection is asserted and the source is an original (such as a Compact Disc or a pre-recorded commercially sold DAT tape), SCMS will allow the DAT recorder to make first-generation copies. However, if copyright protection has been asserted and if the source that the consumer attempts to record is already a first generation copy, SCMS will shut down the DAT recorder and will prevent the consumer from recording a serial copy.

These codes currently can be included only in digital formats, such as CDs or DAT tapes. Analog sources such as LP recordings or audio cassette tapes do not have these inaudible codes. Because of this current technological restriction, the DAT bill provides an exception that allows consumers to make two generations of digital copies from analog sources. In other words, when recording from an analog source, the first digital copy gets these C-Bit and L-Bit codes, and allows you to make a second generation of digital copies. Further serial copying from those second generation tapes, however, is prohibited by SCMS.

Under those circumstances where recording is permitted, the DAT recorder equipped with SCMS technology will record inaudible codes onto the DAT tape being made. These codes will indicate whether that DAT tape can then be copied by another DAT recorder.

SCMS Does Not Affect Other Technologies

Both the recording industry and hardware manufacturers have voluntarily agreed to recommend to Congress and other worldwide legislative bodies the specifications and provisions set forth in the DAT Bill, but it is important to note that the DAT Bill does not impose requirements on anyone else. There are no requirements for broadcasters to do anything. SCMS is implemented automatically through the digital receiver and the DAT recorder. However, if a broadcaster wishes to do so, the DAT Bill sets the compatibility and SCMS standards that the broadcaster can follow.

We Still Need the DAT Bill

Even though DAT machines with SCMS soon will be available in our local stereo stores, it still is necessary for Congress to enact the DAT Bill for the protection of consumers, and the hardware and recording industries. The compatibility standards implemented by the DAT Bill provide certainty to consumers that in buying DAT recorders today they will not encounter problems tomorrow. These compatibility standards also benefit the manufacturers of all kinds of digital products by enabling them now to design their future products to be compatible with DAT technology. In turn, consumers will be able to use DAT recorders with a myriad of digital audio, video and computer products that today we can only imagine. But without the DAT Bill, there is no compatibility standard.

The SCMS standards mandated by the DAT Bill are equally necessary. The recording industry and hardware manufacturers have both made an important compromise in accepting SCMS. SCMS allows consumers to make first-generation digital recordings for their own use, but protects copyright holders against unlimited serial copying. Without the DAT Bill, SCMS is just a voluntary standard that manufacturers can either accept or reject. If the DAT Bill is not enacted, there is nothing to prevent other manufacturers from selling DAT recorders that permit endless serial copying, to the detriment of both the copyright interests and those hardware manufacturers who have accepted SCMS and, ultimately, to the detriment of this important and historic compromise between these two industries.

Moreover, without the DAT Bill, manufacturers of sound recordings or broadcasters could intentionally or unintentionally encode their products to prevent consumers from making even first-generation recordings, to the detriment of consumers. To give you an example, a few small independent recording companies have been selling pre-recorded DAT tapes for several years now to the limited number of owners of gray market DAT recorders. However, without the uniform coding system standards established through the DAT Bill, these commercial tapes have not been encoded consistently to protect the consumer's ability to make first generation copies. Prompt and immediate enactment of the DAT Bill will provide necessary guidance to the recording industry and secure the consumer's interests.

The Compatibility and SCMS Standards of The DAT Bill Are Accepted Internationally.

The standards set forth in the DAT Bill and in the Technical Reference Document that accompanies the Bill expand technical standards that are already in place. The additional specifications of the Bill are the result of extensive negotiations among professional engineers from many nations, representing recording professionals, hardware manufacturers and audio engineers such as myself, coming from the perspective of the listening public. These standards have been tested and accepted by these international engineers. The standards have now been incorporated in proposals to the IEC, and are supported by IEC delegations from the United States and the major countries of Europe and Asia.

Notably, these international standards are not proprietary to any particular company or country. They are dedicated to the public domain, and are explained for the benefit of engineers and designers in numerous documents published by the IEC and in the Technical Reference Document incorporated in the DAT Bill.

The DAT Bill Should Be Enacted Now

DAT technology is here, and consumers are ready for DAT. The new quality of consumer digital audio tape recording offers tremendous and wide-ranging potential. But the benefits of DAT cannot be fully realized without the standards for compatibility and SCMS mandated by the DAT Bill.

The DAT Bill likewise may be a useful precedent for future technologies. It is a unique technological compromise to solve a particular problem, but technological solutions such as this have the potential of resolving similar problems that may arise for future technologies. While it is not necessary to apply this type of solution in the future, it is likely that comparable technological compromises will be proposed again in those contexts. The DAT Bill may serve as an important precedent to test whether technological solutions are appropriate as a matter of policy.

In sum, without the DAT Bill, the benefits of DAT may never be fully realized. With the interests of consumers, copyright holders and industry at stake, we need the DAT Bill now.

Thank you.

Senator INOUYE. Thank you, Mr. Feldman.

Now may I call on the President of the Isosonics Corporation, Mr. Greenspun.

STATEMENT OF PHILIP GREENSPUN, PRESIDENT, ISOSONICS CORPORATION, CAMBRIDGE, MA

Mr. GREENSPUN. I would like to introduce myself, I think, as a loose cannon. I was teaching electrical engineering undergraduates at MIT when these free plane tickets to Athens were being offered, and so I am not part of any of these agreements. I am not sure anyone else here has ever heard of me, but I import digital audio equipment into the United States. I am reminded of the Reagan Administration official who, when visiting Harvard University, said he was glad to go to Cambridge because he had never visited a Communist country before.

I import digital audio equipment from Massachusetts. There are about 160 people in Massachusetts assembling our digital audio recorder, which uses no Japanese technology.

In any case, this bill started with concerns over copyright infringement. That is where I will start. I bought this boom box which has two cassette transports last week for $49.99. Here is a prerecorded tape of Beethoven, who also is not going to get too much out of this bill. Into here goes a blank tape that costs about a dollar. By pressing these two buttons a teenager, who is apparently the typical copyright infringer if you believe the Office of Technology Assessment study and some others, just presses these two buttons. This is a principal tool of copyright infringement.

It is my opinion that copyright infringement material is widely available in America today, and there is no one who is refraining from infringement because of concerns about sound quality. If you want a better boom box, you can buy one for $200. A 20-year old Nakamishi cassette deck would have done just about as well in the demonstration we just heard.

I think it is absurd to suggest that many people are going to rush out and spend a couple thousand dollars on a CD player, a DAT recorder, just so they can make what to them are only slightly better copies onto blank tapes that cost $18.

So if DAT recorders, whether or not this bill is enacted, will not affect the amount of copyright infringement in America, what will they do? I maintain they are going to destroy an emerging American industry and American manufacturing jobs making digital audio equipment, that they will help create a Japanese monopoly on the manufacture of this kind of equipment, that they will force American consumers to pay millions of extra dollars to the Japanese for legitimate uses, increase the trade deficit and reduce the variety of recorded music available.

Let us look at the jobs issues first. Japanese firms control the consumer electronics market, and conventional wisdom is that it is futile for Americans to compete. With some friends from the Electrical Engineering Department at MIT, I started Isosonics two and a half years ago. I wish I had had this boom box to record venture capitalists laughing us out of their offices when they found out we were going to make consumer electronics in America.

What they failed to understand is that digital audio equipment is no different from the computer equipment that Americans have built successfully for decades. On a level playing field, creative American firms should be able to compete successfully with huge Japanese firms. Even my small start-up company manages to produce a machine superior in many ways to Japanese units. Most American audio manufacturers, however, are small and short of engineering resources. Certainly they generally lack the experience and capital necessary to design custom integrated circuits. That is what the newspapers call microchips these days.

To implement SCMS as required by this bill, a small American company would most likely have to buy chips from somewhere. Even if SCMS chips were free, companies with existing products such as my own would have to shut down production and spend hundreds of thousands of dollars to redesign and retool. Most American companies in this market are tiny start-ups and would be forced out of business by such expenditures. That is the best case. The reality is that SCMS chips are not free, and the Japanese will likely be the primary source.

In a decade of designing industrial electronics, I found the Japanese to be among the world's most aggressive salespeople. If you are designing a new computer for industry, Sony will beat down your door trying to sell you memory chips. The Federal Express woman will come groaning every day with engineering data books, samples and prices.

But the three times in my engineering career that I have tried to buy parts that are critical to manufacturing consumer electronics, everything suddenly becomes difficult. It takes months to get engineering data. After dozens of phone calls, if you are lucky you will get a quote of $100 for a chip that costs $2 to make and that you can find buried in a product that retails for $200. Most of the time I think these guys cannot even imagine that Americans would want such a product.

This bill will enable foreigners to decide who in America may enter the digital audio business and what prices they must charge for their products.

I would like to address what seems paradoxical, that this bill will actually reduce the variety of recorded music. I think most musicians are poor, and the DAT bill would make them poorer. Let us say you have a job assembling American made digital audio equipment. The DAT bill passes, and Panasonic is not feeling charitable toward your employer, so you are out of work. But you do not care because you really wanted to be a country western star. So you move to Nashville and you try to independently make demo tapes and your first CD, much as Mr. Kondo just suggested.

Well, the DAT bill has crippled low cost consumer DAT machines, and you cannot use them to edit your tape back and forth and preserve sound quality. So now you have a choice. You can shell out $5,000 for a pair of professional machines, which will increase the trade deficit and give extra profit to the Japanese because pro machines are identical to the consumer machines with one chip removed. The bill practically requires them to charge more for pro machines if you read the language. One of the things that distinguishes a consumer from a professional machine is the price.

If you do not have the money you are doomed to obscurity. So the DAT bill would create an artificial barrier to entry in the already highly concentrated record industry. The potential for slightly increased revenue for established companies would not make up for the loss of variety and opportunities for newcomers.

Finally, the notion that DAT recorders are somehow uniquely threatening is hard for me to accept. An IBM PC can make a perfect copy of a $500 software product in ten seconds, and you can Xerox a document hundreds of times before it becomes unreadable, but we do not ban IBM PCs and Xerox machines. Somehow software publishers and print publishers manage to get along and even prosper.

I think the burden of proof should be on record companies to show that this bill will make society better off. Will Michael Jackson produce better music if the DAT bill increases his income by a tenth of 1 percent, or will America be deprived of a future Michael Jackson because an unknown artist could not afford a professional DAT machine? If the DAT bill makes a composer slightly wealthier, will that make up for an increased trade deficit, lost American jobs and somewhat poorer inconvenienced consumers? Should we ship millions of extra dollars to Japan to reduce copyright infringement by a few percent or to shift it from DAT machines back to boom boxes?

Well, I would like to say that I hate people who criticize things but do not suggest a better alternative, and so I would like to make a few suggestions. If I were manufacturing CDs and I wanted to increase my sales, I would try innovation. It is not too hard to design a CD that sounds better than current CDs. CDs record a certain number of bits per second, and the more bits per second the higher the sound quality.

CDs were designed in the 1970s. Two decades later, it is not challenging to put more bits onto optical "Super CDs". This fancy shiny new $1,500 Sony machine would be hopelessly unable to copy Super CDs digitally, and would therefore be no better than a 20-year old Nakamichi cassette deck.

If that is too bold, this is a creative industry, and I am an engineer. I have spent over a decade at MIT, and I am sure that is not generally considered conducive to creativity but if I were selling Beatles CDs I would give away a CD by a new artist, perhaps Senator Breaux's 2 Live Crew or someone else innovative. You know, a CD only costs a dollar to produce, and they retail for $15. There is a lot of room to play with here. Consider printing, cover art, posters, booklets, coupons for concert tickets.

If I were a songwriter I would note the fact that I get paid the same amount whether the record company sells an LP or a CD. The record company's cost of production for those two things is approximately the same, and yet the record company charges about double for the CD as the LP. If I were a songwriter, I would want a share. There has to be some extra profit in making CDs versus prerecorded cassettes. I would want to share those profits.

If I were the record companies getting $6.5 billion a year out of American consumers, I guess I would try to innovate a little bit before running to Capitol Hill to ask for new taxes on consumers either explicitly with blank tape royalties or implicitly with this bill.

That is not to say that I necessarily oppose royalties. I am not a creator. I do not really have any expertise in that area. I will have to leave it to other people. My gut feeling, though, is that if there is infringement going on now it will not be changed by DAT machines. If infringement now is not killing the industry, then the DAT machines will not. If it is killing it now, then I suppose you might as well do something about it.

To sum up, the DAT bill is bad legislation. The bill will not encourage authorship. It will destroy the only realistic chance America has to get back into consumer electronics. It will help create a Japanese monopoly on the manufacture of digital audio equipment. It will make it more difficult for small record companies and independent artists to compete. It will injure consumers and will substantially increase the trade deficit.

Thank you for inviting me here.

[The statement follows:]

Philip Greenspun's Testimony Against the DAT Bill before the U.S. Senate Committee on Commerce, Science and Transportation

I am against passage of S-2358 (the "DAT Bill") because it will

- destroy an emerging American industry manufacturing digital audio products and cause a substantial loss of manufacturing jobs
- hinder small American-owned record companies in their efforts to compete with large record companies, most of which are foreign or foreign-owned
- help create a Japanese monopoly on manufacturing digital audio equipment
- require Japanese manufacturers to engage in price discrimination, at the expense of American consumers
- increase the trade deficit as Japanese manufacturers and foreign-owned record companies displace American suppliers
- not have any significant effect on copyright infringement

This testimony includes hypothetical examples that illustrate the harmful effects of the DAT Bill, an analysis of those effects, an exploration of copyright as applied to sound recordings, recommendations for the Committee and record companies, and finally background on myself and my company.

Hypothetical examples that illustrate the harm done to Americans by the DAT Bill

Joe Audiophile makes a live recording of his church's choir with his $1500 "consumer" DAT recorder. A local CD manufacturer offers to press 100 CD's from the tape for members of the congregation for $500. Using a friend's "consumer" DAT recorder, Joe tries to copy passages back and forth until a one hour master tape is produced. He cannot because his DAT recorder has Serial Copy Management System (SCMS). Joe must now pay $5000 for two "professional" DAT recorders identical to the one he already owns but without SCMS.

The Japanese receive a windfall profit of $2000; the trade deficit increases by $5000; there is no effect on infringement.

Jill Engineer runs Jilltronics, a small American company making digital audio equipment. Jill has to innovate to compete against Japanese companies with billions in cash. Jilltronics employs 100 Americans making a line of digital audio equipment. After passage of the DAT Bill, Jilltronics is forced to reengineer its products, although it barely has enough cash to operate as is. Every day, Jill throws out ten pounds of unsolicited databooks — literature from Motorola, National Semiconductor and Texas Instruments explaining how to use their integrated circuits ("microchips"). Salesmen from these companies call Jill daily to encourage her to incorporate their chips in her products. Even Japanese firms call to offer her memory chips and other components that go into computers and industrial products. But when Jill tries to find out about SCMS chips that can only be used in a consumer product, everything suddenly becomes "difficult." A requested databook arrives after 11 weeks. After more than 30 telephone calls, Jill finally gets a quote: $100 for an input/output set of digital audio interface chips that implement SCMS. These chips cost less than $2 to produce and are incorporated in products that retail for only a few hundred dollars, but engineering them from scratch would cost Jill time and money that she doesn't have.

So Jill lays off 80 of her employees and starts advertising a few non-SCMS products to professionals only. Meanwhile, Jill tries to raise capital for her company. Venture capitalists have always turned her down in the past because "Americans aren't capable of making consumer electronics." Now they won't even call her back because the DAT Bill allows people to sue Jilltronics for things over which it has no control (e.g. "the occupations of its purchasers" and "the uses to which it is put" -- Sec. 3c3). For one more year, Jill struggles without venture capital. A foreign-owned record company then sues Jilltronics for $6 million because 100 of Jill's customers were only "semi-professionals" and copied some out-of-print CD's (the vast majority of all recordings ever sold are out of print). Jilltronics does not have enough cash to finance litigation and is forced to liquidate. An American business has been destroyed; 100 Americans have lost their jobs; tens of thousands of Jilltronics customers must now buy imported equipment, thus increasing the trade deficit; record companies would not have benefitted since the recordings were out of print.

Jerry Teenager is a copyright criminal. He owns a $50 boombox with two cassette transports similar to the one I brought here today. He buys some prerecorded cassettes but also buys blank tapes and copies his friends' cassettes with his boombox. He is perfectly satisfied with the quality of recordings he makes effortlessly onto $1 tapes. Jerry is not going to run out and spend over $1000 on a DAT recorder and CD player so that he could copy $15 CD's onto $18 tapes. Jerry has a fixed budget for music and, even if home taping were eliminated, would not spend substantially more on prerecorded material. Unless he tried to get a job assembling consumer electronics in America, Jerry's life will be completely unaffected by passage of the DAT Bill; the record companies will not be able to get any more money out of Jerry, with or without the DAT Bill.

Julia Pirate is a copyright criminal. She sells 2,000,000 Michael Jackson cassettes every year. Julia's profit is $1 million/year. She paid $5000 for a "professional" DAT recorder because she understood that $1000 consumer machines are hobbled by an act of Congress. DAT isn't useful in her piracy career, so she keeps her machine on her 75' sailboat. Commercial piracy will not be affected by the DAT Bill; Julia gave $4000 in windfall profit to a Japanese company and added $4000 to the trade deficit.

Jack Vicious flips burgers by day and is a guitarist in the punk group Twisted Weasels by night. The Twisted Weasels made a profit of $53.22 last year from 15 performances. Instead of listening to live Weasels, people would rather buy a recording of a popular foreign group from a huge foreign company. Jack hopes to change that by buying a DAT recorder and pressing a CD. But passage of the DAT Bill means he has to spend big bucks for a useful machine. Jack can't afford a professional DAT and the Twisted Weasels are doomed to obscurity.

Holden Preppie IV made his money the old-fashioned way: he inherited it. While a student at Harvard, he identifies a need for a record company to serve "discriminating classical music lovers" with recordings of young, unknown American artists: Snob Sounds. Snob Sounds's competitors are CBS (Japanese-owned), RCA (German-owned), Philips, EMI, Decca, and Deutsche Grammaphon (all European). To his competition, the $100,000 price of a Sony multitrack machine is chicken feed. However, Snob Sounds can only afford two microphones and hence shops for DAT machines. Passage of the DAT Bill means that Holden has to spend twice as much as he expected for his recording equipment. Snob Sounds originally planned ten releases in its first year and can only manage three because of increased expenditures on DAT machines. Snob Sounds folds because it doesn't make a big enough initial impact; Holden goes to work for Daddy's bank and his four employees are laid off. The Japanese receive thousands in windfall profits on Snob Sounds's DAT equipment; big, foreign record companies are protected from an innovative competitor; struggling American artists lose an outlet for their work.

The Effects of Enacting the DAT Bill

Americans will be Unemployed

Although Japanese firms will continue to dominate the consumer electronics industry, the increased popularity of digital audio equipment represents an opportunity for American firms. From an electrical engineer's point of view, there is little difference between a digital audio processor and the computer peripherals that Americans have successfully built for decades. By being creative, small American firms should be able to compete with huge Japanese firms. Economies of scale can be realized on much smaller volumes of digital audio equipment than with televisions, CD players or VCRs. Digital audio equipment can be produced in the same American factories that build computers.

Most American audio equipment manufacturers are small and lack the resources to engineer custom integrated circuits (ICs). The large Japanese companies that dominate the consumer electronics market have ample resources to develop ICs that implement the Serial Copy Management System (SCMS) mandated by the proposed DAT Bill. By controlling the supply of SCMS ICs, the Japanese will be able to control which American firms enter the market and what prices they charge for their products. I have over a decade of experience in building electronics in America. When I want to buy something to go into a computer, the Japanese are the world's most aggressive salesmen. The times I've tried to buy components critical to manufacturing consumer electronics, they either flatly refuse to sell, gently explain that "the guys in Japan will say no", don't return calls, withold engineering data, or quote outrageous prices after weeks of delay.

American firms wishing to compete will be forced to pay exorbitant prices to foreigners for these chips or be sued for violating the DAT Bill. Most American manufacturers are barely profitable and the cost of reengineering their products to comply with the DAT Bill *even if SCMS ICs were free and widely available* will put them out of business. It is ironic that some people think consumer electronics is so important that we should spend billions to get into HDTV, while others think it so unimportant that they support a law that will push Americans out of digital audio, a natural area for existing American firms.

While it is nice to think that Americans have a monopoly on creativity, a trip through a record shop reveals that this is not so. Not only are a substantial share of the recordings from foreign and foreign-owned firms, but many of the artists are foreign as well. In popular music, the success of the British is legion. In classical music, virtually all of the composers and most of the performers are foreign. The DAT Bill provides some small protection for large record companies and successful artists, but it hinders small American firms and unknown American artists.

New record companies and struggling musicians are among the most cash-starved of all Americans. They are at a tremendous competitive disadvantage with respect to established companies and artists. A successful star can earn money from concerts, movies, recordings, endorsements and licensing. An unknown artist must produce a hit CD before any of the opportunities become available. By making DAT recorders useful in making demo tapes and mastering CD's substantially more expensive, the DAT Bill creates a new barrier to entry in an already concentrated industry. There will thus be fewer jobs for American artists and employees of American record companies. Slightly increased revenues for established record companies will not make up for the loss of variety and opportunities for newcomers.

Consumers will be Bled; Japanese will Prosper

The DAT Bill will force manufacturers to charge more for "professional" recorders that lack SCMS but cost about the same to produce as "consumer" recorders. Musicians, audiophiles, amateur recordists and professionals may have to pay over $1000 extra per machine just so they can go about their business. This is pure profit for DAT manufacturers and will add to the trade deficit. If DAT manufacturers got together to engage in this kind of price discrimination, they would be sued for violating anti-trust laws. But if the DAT Bill forces them to make extra profit, consumers will have no recourse.

Consumers who don't wish to suffer with SCMS or be gouged when buying professional DAT machines must buy analog tape recorders. Whereas there are American firms, including my own, who make digital audio recorders, all analog machines are made offshore. The Japanese can make money either way, but American firms will suffer and the trade deficit will increase.

Copyright Infringement will be Unaffected

Most copying in America is done by commercial pirates and by teenagers with double-cassette boomboxes. Commercial pirates have no use for DAT and can well afford "professional" machines in any case. DAT is a nice technology in many ways, but it is not selling well in the countries where it is available, largely because consumers are perfectly satisfied with the sound of analog cassettes and are unwilling to pay thousands more for DAT machines and DAT blank tape. To most people, the benefits of "perfect digital copies" are abstract and irrelevant. I brought with me a double-cassette boombox that I purchased for $50. Despite the warnings of doomsayers, the recording industry has coexisted with such machines for decades. CD's that cost $1 to manufacture sell briskly at $12-18 retail. It seems that well-heeled consumers prefer the convenience of owning original recordings and that infringers tend to be improverished teenagers with little disposable income for CD's or anything else. Despite its dramatic negative effects on American industry, musicians and consumers, the DAT Bill will probably not aid copyright holders in any significant way.

Full Employment for Lawyers

Although the DAT Bill will cost Americans jobs in music and consumer electronics engineering and manufacturing, it will certainly create opportunities for lawyers. The proposed law is so vague that nobody will be able to build professional DAT machines without hiring an army of lawyers. In particular, the factors that distinguish a professional from a consumer unit are absurd, including such items as the letter "P" on the outside of its packaging, how it is marketed, and whether or not it has certain connectors. In practice, many professionals use consumer equipment and many consumers use professional equipment. Sony even coined a term for consumers who buy professional-quality equipment: *prosumers*.

In the event that packaging, marketing and connectors are not vague enough, the DAT Bill states that a court may consider "the occupations of the purchasers of the recorder and the uses to which the recorder is put." Thus, a company may be sued at anytime because of factors entirely beyond its control and the company with the most lawyers will win. Who can afford more lawyers, big Japanese companies or small American ones?

Americans get a Cold Fish in the Face

For decades, Americans have responsibly used photocopiers, VCRs, analog tape recorders and computers, all of which can be used to infringe copyright. Digital audio recorders can be used for hundreds of legitimate purposes. Congress's own Office of Technology Assessment already found that most home taping is non-infringing. No one has demonstrated any compelling need for this legislation, which creates a tax on DAT machines to be paid to the Japanese. To a taxpayer already reeling from the cost of bailing out the S&L industry, it all adds up to a cold fish in the face.

Copyright for Sound Recordings

The right to not be murdered in one's home is an intrinsic right. Copyright, however, is an artificial concept created by the government to encourage authorship. Copyright was created not to enrich authors but because it was thought that society as a whole would benefit if authors could earn more money from their creations.

Although commercial piracy has been largely eliminated by copyright laws, informal infringement is widespread. Millions of illicit photocopies are made daily. This infringement could be halted by banning photocopiers or having every copy result in a FAX transmission to a central clearinghouse. This might increase the quality and/or quantity of authorship. However, it is thought that the costs to society would outweigh any benefits. Indeed, unknown authors are the ones who benefit most from low-cost photocopying because it has made "self-publishing" possible for almost anyone.

Record companies do not have an inalienable right to squeeze every possible nickel out of American consumers. Any debate over whether or not to strengthen copyright for music must be decided on the basis of whether or not society will be better off overall. Will Michael Jackson produce better music if the DAT Bill increases his income by 1%? Or will we be deprived of a future Michael Jackson because an unknown artist could not afford a "professional" DAT machine? If the DAT Bill makes a composer slightly wealthier, will that make up for a vastly increased trade deficit, lost American jobs and inconvenienced, somewhat poorer consumers? Is it worth shipping millions of extra dollars to Japan to reduce copyright infringement by a few percent (or to shift it from DAT machines to cassette decks)? Should we pass laws that enrich foreign-owned record and consumer electronics companies at the expense of American companies and consumers?

Recommendations

It is not clear that anyone need do anything. The record industry is a healthy $6.5 billion industry in America. It is not clear that Americans could or should be coerced into paying more for prerecorded music. There are more obvious ways for the record industry to increase its sales than by running to Congress demanding passage of the DAT Bill and taxes on blank tape.

Record companies could innovate; this is supposed to be a *creative* industry. Selling decades-old technology and then begging for government assistance is not particularly creative. CD's were designed in the 1970s and, although offering convenience and ease of handling, have higher distortion in many ways than LP records made in the 1950s. Millions of audiophiles worldwide continue to play vinyl LPs and put up with their shortcomings because of the CD standard's unavoidable distortion. Ford and IBM would not be very successful if they tried to sell 1950s and 1970s models in the 1990s. If my company, Isosonics, had $6.5 billion in revenue, we would have no trouble developing products that consumers would buy and that could not be copied with Japanese DAT machines.

For example, it is technologically feasible to produce a "Super CD" that contains more information than 1970s CD's. Old players would be able to play Super CD's at current levels of quality and new players would produce sound that might finally surpass 1950s LPs in all ways. Record companies would benefit as consumers replaced collections of CD's with Super CD's. Hardware manufacturers would benefit as consumers upgraded from standard to Super CD players. DAT machines would be unable to duplicate the sound quality of Super CD's and the whole issue addressed by this bill would be moot.

Record companies could innovate in non-technological ways. Since CD's cost so little to produce, companies could give away free CD's. Every Rolling Stones or Beatles CD would come packaged with a CD from an unknown artist likely to appeal to the same listeners. At a cost of $1 per CD, unknown artists would be introduced to millions of listeners. Copying both the featured and "freebie" CD onto DAT tape would cost over $30 in blank tape and hence be pointless.

In the old days, when LP sales were flat, record companies splurged on posters, cover art and other printed material. High-volume color printing is inexpensive and hard to duplicate by consumers. Any consumer wanting the printed material would be forced to purchased the original CD.

For decades, publishers have innovated to compete against duplication technology. Book and magazine publishers have successfully responded to potential competition from photocopiers by printing higher-quality materials in color. Software publishers produce lavish color manuals. Record companies have not demonstrated that DAT machines represent a unique challenge.

Finally, if their creative juices run dry, record companies could lower prices. CD's cost about the same to produce as LP records but are priced almost twice as high. There is currently no incentive to copy an in-print CD onto DAT tape since the tape costs about as much as the CD. DAT tape is an extremely high technology item and will always be expensive. If prices on CD's are gradually reduced to the level of LP prices, no infringement will occur with DAT machines for decades. Most people I know have a fixed budget for recordings and tend to spend a constant amount every time they walk into a record store:. if CD's are half price, they buy twice as many. Thus, it is not clear that lowering prices would substantially reduce profits.

Conclusion

The DAT Bill is bad legislation. The Bill will not encourage authorship, will destroy the only realistic chance America has to get back into consumer electronics, will help create a Japanese monopoly on the manufacture of digital audio equipment, will make it more difficult for small record companies to compete, will injure consumers, and in consequence will substantially increase the trade deficit.

Philip Greenspun's Addendum to Testimony Against S-2358 (DAT Bill) on June 13, 1990

After hearing the testimony of other witnesses and speaking privately with attendees, my thoughts on the DAT Bill developed in some new directions.

In general, I noted that even the bill's supporters were lukewarm, primarily because they saw the bill as "a step in the right direction" but far short of a long term solution to what they see as the problem of adequate compensation for copyright holders. Mr. Ralph Oman, Register of Copyrights, gave typical testimony. He supports S-2358 with a "sense of regret" because we are "missing a once in a lifetime opportunity to enact legislation" adequate for the future. Mr. Oman supports a debit card system whereby consumers would purchase the right to copy a certain number of copyrighted works in advance. They would signal to their tape recorder that they had purchased that right by inserting a debit card, which eventually would run dry.

I have several problems with Mr. Oman's suggestion. Any hardware-intensive solution like this gives a lot of market power to foreign consumer electronics manufacturers. American firms wishing to manufacture digital audio equipment would likely be forced to purchase components from foreigners. This would not be so bad if one could establish that the benefits to American copyright holders exceeded the harm to American manufacturers. However, circumvention by consumers will likely eliminate any benefit to copyright holders.

How to Circumvent SCMS or Any Other Scheme for $10

We heard testimony from Leonard Feldman of the Leonard Feldman Electronic Labs that the SCMS system would be difficult to defeat. Yet my company's product, designed before anyone had heard of SCMS, inadvertently defeats SCMS and most likely any other copy restriction system. Out of the 192 bits in the "channel status word", only the preemphasis bit is relevant to sound quality. In an effort to minimize the number of components in our design, this is therefore the only bit preserved when a digital audio signal passes through our unit. I testified that the signal goes through only four chips, costing a total of under $10 and taking up less than four square inches of printed circuit board space. Mr. George Wilson of Stanley Associates testified that he purposely built a device to circumvent SCMS that cost under $50 completely packaged. Both of us testified that, although an undergraduate electrical engineering background was necessary to design circumvention equipment, no specialized knowledge or components were necessary to construct such devices.

In the long run, it will be possible to circumvent any copy restriction or debit card system with a single $1 "programmable logic device" chip. All a consumer would have to do is copy a program from a magazine article and spend ten minutes connecting the chip to RCA phono jacks and a $5 Radio Shack power supply. Before the decade is out, virtually all personal computers will be able to read and write digital audio. A simple 10 line computer program would then suffice to defeat copy restrictions with the cheapest personal computer.

Why Tape Taxes Won't Work

Tape taxes won't work in the long run either. Isosonics makes a machine that uses video tape to store digital data. The same machine and tape can be used to store computer data, 80 simultaneous phone conversations, digital audio, talking books for the blind and finally, TV programs. It will never seem fair to Americans to pay a tax on tape that is primarily used for noninfringing activities. In the coming decades, every American is going to be storing, receiving, transmitting and manipulating digital data every day. Consumer digital data storage equipment will be ubiquitous. This equipment won't know or care whether the data being stored is audio, video, text, phone messages or still photographs. Less than 1% of the data will be copyrighted material that is outside of "fair use."

In the long run, there will be only two ways to get consumers to pay copyright holders. First and most obvious is the way they pay now. For the vast majority of Americans, it is apparently worth $5-15 to own the original LP, CD or cassette. Some value the convenience of buying from a record store over borrowing from a friend or library. Some find that copying simply isn't worth the trouble. Some are morally troubled by copyright infringement. Some value the booklet and other printed material that accompany the original. By capitalizing on the preceding factors and exercising some creativity, record companies will no doubt always be able to sell billions of dollars worth of original recordings.

Any technological fix to compensate artists and songwriters will be easy to circumvent. Consequently, the best systems are those where the consumer realizes no benefit from circumvention. If we decide that musical performance and composition should be additionally rewarded by society, let us pay for them out of the general budget. One need then only survey consumers to find out what is being played and then pay artists accordingly. We should keep in mind that consumer and society realize no benefit when a recording is copied. A songwriter should get more if his song is copied and played 200 times than if copied and played once (this is another reason I oppose Mr. Oman's debit card system).

Automatic Surveying of Consumers

Automatically surveying consumers should be straightforward. Almost all music played at home passes through a *preamplifier*, which is either a separate box or a circuit within a receiver. If one assumes that music is played 24 hours/day, 365 days/year, that the average song lasts three minutes and that at most 1000 billion songs need be distinguished, then one megabyte of storage is necessary to store a year's worth of data on what was played. Every 12 months or so, the consumer would be reminded by the preamplifier to hook it up to a telephone line so that it could send in a report on what was played since the last report. A central computer would determine how much to pay each artist.

Is this system feasible? Yes, but it will take a few years to implement. Firstly, musical sources need to be tagged. CD's, DAT's, digital broadcasts and other digital sources are already equipped for such tagging. LP's and cassette recorders present difficulties, but the whole premise behind the clamor for the DAT Bill is that such analog sources are soon to be supplanted by digital sources. In European countries, FM radio transmissions are tagged so that people can program car stereos to "look for some classical music". Implementing a similar scheme here would allow royalties to be paid based on radio listening and also allow consumer conveniences.

Secondly, it would be necessary to insure that the system is proof against fraud. Although consumers have no incentive to defraud the system, artists do. An artist could theoretically feed bogus information to the central computer that his songs were being played hundreds of thousands of times. Public-key encryption, a technology that came into widespread use in the 1980s, would likely make it impossible for an artist to substantially corrupt the system.

Thirdly, it would be necessary to insure that mandating the inclusion of specific technologies in preamplifiers does not injure American manufacturers of preamplifiers. Phasing in the system over several years would be helpful in itself. Funding a public-domain implementation of the technology would be even more helpful. The very existence of a public-domain implementation would ensure that no chip maker, foreign or American, would charge very much for survey chips.

By the time musical sources were tagged and a substantial number of consumers ready to purchase digital preamplifiers, the marginal cost of adding an electronic surveying system will be minimal and certainly lower than the cost of adding a debit card reader. Plug-in modules could be employed for systems such as car stereos that are not easily connected to telephones.

Note that the existence of a nationwide survey would mean that copyright holders and consumers could work together to ensure the widest possible distribution of copyrighted material. A teenager who distributed tapes of his favorite songs would be aiding the songwriters and musicians: every time one of his friends played a tape, the copyright holders would get more money. Most consumers would be happy to take a few minutes a year to call in their data since it means that their favorite artists will benefit. It is possible that music distribution will become more efficient and that, out of the $6.5 billion Americans currently pay for recordings, a greater percentage would go to artists.

Note also that a survey system deals fairly with the question of compensating creators of out-of-print recordings. Only a tiny fraction of all recordings are still in print. If a tape tax or debit card system is supposed to compensate record companies for taping that displaces purchases, why is it fair for a consumer to pay to copy one of the 99% of recordings that are no longer available? Yet if one decides that society should support artists whose work is being enjoyed by the public, it is perfectly natural and fair to compensate holders of copyright in out-of-print recordings. This would benefit new musicians and songwriters whose recordings may become out-of-print before achieving widespread public exposure.

I am not necessarily advocating a comprehensive surveying system. As an engineer, it is not for me to say whether society should spend more to encourage musical composition and performance or whether composers and performers should get more and record industry middlemen less. However, as an engineer, I urge that the Congress not mandate half-baked technology that is destined to fail to serve artists or consumers and that will cost American jobs. Technology can be used to efficiently measure specific usage of copyrighted material and compensate copyright holders accordingly; it is painful to see an easily-side-stepped blunderbuss such as SCMS being seriously considered.

Nitpicking Responses to Other Witnesses

"Perfect Sound" since 1915

"The most sensitive ear could not detect the slightest difference between the tone of the singer and the tone of the mechanical device," said a critic after hearing a live tenor and then a recording of the same man. Metropolitan Opera soprano Anna Case found that "everybody, including myself, was astonished to find that it was impossible to distinguish between my own voice, and Mr. Edison's recreation of it." They were not speaking of Toshitada Edison, designer of DAT machines, but Thomas Edison, inventor of the Diamond Disk phonograph. The time was not 1990 but 1915 and the technology was not digital but *acoustic*, i.e. purely mechanical with no electricity.

The fact is that the vast majority of people are extremely uncritical judges of sound quality and claims of improved sound quality amount to little more than advertising hype. Yuppies abandoned LP's for CD's because CD's are more convenient, not because of perceived higher sound quality (as I noted earlier, in many ways CD's have more distortion than LP's and the perception of higher sound quality was achieved through advertising, not engineering). By the time CD's came out, most people had already abandoned LP's for more convenient prerecorded cassettes, despite the terrible sound quality of such cassettes.

The popular music that is so frequently copied by teenagers is particularly undemanding of recording systems. The most popular radio stations in large cities often play music where the loudest sound is only 2 times as loud as the softest; the cheapest cassette recorder can hold a range of 1000 to 1. For most people, using a DAT recorder for copyright infringement instead of a cassette recorder is about as much of an improvement as owning a Ferrari instead of a Chevy in a traffic jam. You get to pay $1500 instead of $100 for the machine, $18 instead of $1 for the tape and no one can hear the difference.

Given that a century of experience teaches that sound quality improved beyond a point reached decades ago is unimportant to the vast majority of people, I was surprised by the number of witnesses who expect the improved quality of DAT copies to increase the amount of copyright infringement. I would like to know what research they conducted to reach such a counter-intuitive conclusion.

Digital Audio as a Natural Japanese Monopoly

As an American manufacturer of digital audio equipment, I was dismayed by the implication by numerous witnesses and Senators that only the Japanese will make products affected by this bill. While it is true that few American firms make digital audio recorders, there are many American firms producing equipment for processing digital audio signals (described in the bill as "digital audio interfaces"). Given that digital audio equipment can be made on the same assembly lines that turn out over a hundred billions dollars worth of computer equipment in the U.S. every year, it takes a true American defeatist to assume that we can't build this stuff. If you believe America can build anything at all, you have to believe that we can build digital audio equipment.

Songwriters vs. the Trade Deficit and Record Companies

A number of witnesses and Senators implied that if we could encourage authorship and ensure fair compensation to copyright holders we could achieve a substantial reduction in the trade deficit. Even if every American could compose like Mozart and perform like Pagannini and copyright infringement were eliminated worldwide, we would still have to find other ways to improve the trade deficit. Consumers have a fixed small budget for musical entertainment and exporting songs simply won't make up for importing cars. A consumer who spends $20,000 on a car will likely only want 20 tapes to play in that car. At $10/tape, someone would have to buy 2000 American tapes to balance one Japanese car. The cold facts are that, as much of a symbol of American creativity as it may be, the record industry is a $6.5 billion drop in the bucket of a multi-trillion dollar economy.

Furthermore, the creative songwriters who testified at the hearing only get a tiny fraction of that $6.5 billion drop. Under no circumstances are foreigners likely to support a significant number of Americans writing or performing songs.

While conversing with songwriters at the hearing I learned that they get about five cents per song on a CD, cassette or LP. The production cost of a CD and LP is about the same, yet the record companies get twice as much for the CD. Before coming to Congress because they think they aren't getting their fair share from consumers, perhaps the songwriters should try to get their fair share from the record companies. If CD's were priced the same as LP's, consumers would probably buy about twice as many; record industry revenues would be the same, consumers would enjoy larger music collections and songwriters would get twice as much money.

Are Consumers Being Deprived?

Several witnesses gave the impression that consumers were somehow being deprived of useful technology because this bill has not been passed. Consumers are supposedly desperate to get their hands on DAT, the latest Japanese widget. A brief glance through the February 1989 *Audio* magazine suggests otherwise. *Audio*, with a circulation of 150,000, reaches almost every serious audiophile in the U.S. This issue contains three advertisements for firms selling DAT machines mail order. By picking up their telephones, readers could choose units from Sony, Panasonic, Tascam, Kenwood, Pioneer, Akai, Sharp, Alpine, Nakamichi, JVC, Technics and Aiwa. So, for at least the last year and a half, DAT recorders have been as available to Americans as Spiegel clothes, Lands End shirts and L.L. Bean shoes. Yet U.S. sales of DAT machines have been negligible, just as they have been in Japan and parts of Europe where consumer DAT is being pushed heavily. Consumers worldwide are satisfied with analog cassette decks. The slightly higher sound quality and convenience of DAT is compelling for only a few people.

Mr. Oman testified that consumers might be enjoying new technologies, such as recordable CD's if "copyright problems were resolved." Engineering problems and blank disks that cost over $100 are what have delayed recordable CD's, not uncertainty over copyright law. It will be many years before blank recordable CD's cost less than new prerecorded CD's, thus making the copyright issue moot. After almost 15 years of extensive promotion, only 20% of American households contain CD players. Only a small fraction of these chose to buy one equipped with the digital output necessary to make digital-to-digital copies onto DAT or recordable CD's. Even if copyright in sound recordings were abolished, there is no technology on the horizon that would induce a significant number of consumers to open their checkbooks. This is why attendance at the last Consumer Electronics Show was only about half what it was when the industry was demonstrating innovations of interest to a large percentage of Americans.

Conclusion

After thinking about the hearing for two weeks, I am finally struck by the lack of imagination that I observed. I saw record companies who can't imagine improving their product to increase sales and make copying more difficult. I saw engineers who worked for years to set a bit in a data stream and can't imagine it being reset by a $1 chip or 10-line computer program. I saw Americans who can't imagine that their countrymen are capable of producing consumer electronics. I saw people who can't imagine that all kinds of digital data are stored on the same disks and tapes and who therefore think a tax on a particular kind of tape qualifies as a "long term" solution. I saw people who can't imagine that most consumers are happy with their paid-for analog cassette decks and won't shell out $18/tape for something new.

The hard facts are that most people don't care about sound quality, that DAT doesn't sound much better than a cassette deck, and therefore the introduction of DAT will not substantially increase home taping. Manipulating digital data is the *raison d'etre* of computers and digital electronics; any technology for preventing copying will be circumventable with a $1 chip or cheap home computer. If we decide that artists should make more money, we must either encourage record companies to innovate so that more recordings are sold, legislate increased royalties for artists from high profit items such as CD's or pay artists from the general budget, either according to sales, copying or playback of artists' material.

Senator INOUYE. Thank you, sir.

All of you, I presume, were here when Mr. Oman testified. Do you agree with the thrust of his presentation, that with inclusion of remuneration or royalty, it would enhance the recording industry's profits?

Mr. BERMAN. Are you asking me, Mr. Chairman?

Senator INOUYE. Yes, sir.

Mr. BERMAN. I welcome the Registrar's remarks about royalties, but speaking to me is speaking to the converted. I think it is to the members of this Committee and to the Judiciary Committee that the Registrar needs to make his plea.

Senator INOUYE. Mr. Friel, do you agree with the debit system that Mr. Oman described?

Mr. FRIEL. We do not have enough experience with the debit system, Senator.

I think it is a poor marketing idea. I do not think consumers will buy it, especially given the number of analog cassettes and compact discs out there.

And let me remind you that the recording industry has made profits on Irving Berlin's White Christmas from an LP sense, from a prerecorded sense, from a CD sense, and he probably could make money on DATs if we get this bill moved.

Mr. BERMAN. There is nothing wrong with profits, Mr. Chairman, it is the American way.

Mr. FRIEL. I guess the point I am trying to make, Jay, is every time we bring technology here, you benefit, and yet you fight me all the way to the bank.

Mr. BERMAN. We would be depositing more, Tom, if our product was protected.

Senator INOUYE. Does it make any difference to any of you that the European community will be providing remuneration or royalties to their musicians, but if this bill passes, as is, Americans will not get a penny?

Mr. BERMAN. It is of great concern to us, Mr. Chairman, because in all of those legislative schemes in which record companies, song writers and music publishers are compensated for home taping, there appear to be the accompanying restriction of reciprocity. As a result of which, we would not be entitled to be compensated, because we would not offer to European industry a royalty.

And so it is of great concern, yes.

Senator INOUYE. Mr. Friel.

Mr. FRIEL. Well, I think that the incentive systems that we have here in the United States, framed by our Constitution, are probably working very well. And I think the open market system Mikhail Gorbachev has just adopted or is trying to adopt in his country, has worked very well. And so I do not agree with Jay Berman at all.

Senator INOUYE. Mr. Breaux.

Senator BREAUX. Let me ask Mr. Feldman if you could explain, perhaps, to a layman like myself, what actually prohibits the second-generation copying, but would allow a first copy? And could you not devise it to also prevent the first copy?

Mr. FELDMAN. Well, the original form of DAT as originally proposed in fact did prevent the first digital to digital copy, but permitted endless analog copying. And the compromise that we have been talking about, as you now know, is that it permits one digital to digital transfer, but no subsequent ones.

To answer the first part of your question, a series of digital codes is passed along from the CD, for example, or from prerecorded DAT, which tells the DAT recorded that this is an original, and therefore we are permitting one copy to be made. But as that copy is made, a different code is imposed upon the tape itself, which tells subsequent attempts or attempts to record onto a second DAT that no, this is a first-generation copy, therefore no further copying is required.

It is all done in the digital domain, as I emphasized in my remarks. Therefore, it does not affect the audio quality. It is quite apart from the audio quality, as opposed to something we considered a few years ago, which seriously affected the audio quality.

Senator **Breaux**. Under that system you could, however, continue to make unlimited numbers of copies off the original DAT?

Mr. **Feldman**. That is correct, sir.

Senator **Breaux**. I guess the concern I have, and Mr. Greenspan may have tried to address it, is that we heard in the past that the the sky was going to fall, with regard to copying. And we are copying from analogs. I am concerned about how big of a problem is it.

Mr. **Berman**. I would like to address that, Senator Breaux. If we are a $6.5 billion industry in the United States, we would actually be a $10 billion industry if the retail value of home copying were added to our sales. It is an enormous amount of copying that goes on, well over 380 million blank audio tapes a year are sold in the United States alone. It is hard for me to accept the fact that on those blank tapes are the occasional bar mitzvah or wedding or piano playing. I think your daughter's own experience is a more likely one, that she is simply copying our music.

Senator **Breaux**. Why not just prohibit the first copy of the original pre-recorded material?

Mr. **Berman**. I would strongly support the prohibition of the first copy off the original DAT.

Senator **Breaux**. Mr. Greenspun, what is your comment on that?

Mr. **Greenspun**. By the time any of this is introduced, Texas Instruments chips available to anyone for $1 called programmable logic devices can be programmed to defeat this system or any of the other systems that have been discussed today by any of my undergraduate students.

Senator **Breaux**. That is a technical thing that will have a device that will override the device. The question, however, I am asking is, why would it be improper to establish a DAT system that prohibits the first recording off it to require the person to go out and buy the product?

Mr. **Greenspun**. Well, the main reason is it would make it useless for Mr. Kondo's customers who want to record their traditional Hawaiian music. Digital to digital copying is a good way to produce original material. And then you would get—the Bill has a labored, multi-page section that tries to distinguish between professional and consumer units, I think it is a full employment act for lawyers, because it is so vague. One of the conditions is actually the occupations of its purchasers and the uses to which it is put. Things over which a manufacturer really has no control.

And so you have a lot more people buying professional units for this capability, and you would have probably more lawsuits by people alleging that these were not truly professional units.

Mr. **Friel**. If I might add, Senator. If you prevented the first copy, the first generation from being copied, the very people who Jay represents and Mr. Greenspun talked about, the young, creative geniuses that want to send a DAT perfect copy to you as a recording company to introduce me into the mainstream of Nashville, Tennessee, would be eliminated.

So there are reasons why in fact we want a first generation digital copy.

Mr. **Feldman**. Senator, I have to disagree with my friend from MIT, much as I appreciate the prestigious nature of the institution. The fact of the matter is that the SCMS system is so devised that it is not that easily defeated at all. Furthermore, it is built into the firmware rather than into a chip, as is constantly referred to here.

I have detailed information on this, which I would be happy to submit at a later date. But the point is that by passing the legislation, we are talking about decreasing the incentive to defeat it. Because we already have given the consumer that which he wanted in the first place, the ability to make compilations for his car from several CDs, or just a copy for use on his own.

Furthermore, addressing the debit card system, you see where that would get into problems, because what would you have to do for each selection that you take off each CD, perhaps there are 10 CDs involved, would you now have expended the full $10 in making the compilation of one tape? It is an impractical solution, and one that makes no sense at all.

It is like having to put money in a parking meter every time you drive your car into your own driveway.

Mr. **Berman**. If there were a parking meter in your driveway, the law would require you to do that.

Mr. **Greenspun**. I would like to disagree with Mr. Feldman. I speak from experience; I have already built a machine that defeats SCMS. I did not do this intentionally. It just so happens that the machine we currently sell has digital in, digital out, and it inadvertently defeats SCMS, and the signal goes through four chips, the total cost of which on a little printed circuit board would be under $10.

And if my company is put out of business by this DAT, Mr. Feldman could buy the schematic from the bankruptcy receiver and publish it in his magazine, I suppose.

Mr. **Berman**. It would be illegal.

Mr. **Greenspun**. It would not be illegal to publish the circuit and any consumer could build it by himself in about an hour.

Mr. **Berman**. Mr. Chairman, let me point out that in the amended version of our bill, the Isosonics machine would be excluded because we would redefine the product as RDAT. I am beginning to question my judgment in doing that when I read the advertisement for Isosonics.

First of all, I am also troubled by an MIT engineer using the phrase Xerox, when I think he meant photocopying.

But here is the advertisement: Isosonics has developed the world's best digital CD recorder, the PCM 44.1. Just grab any VCR, a $3 blank videotape, and the PCM 44.1. Then they can direct the digital copy of six hours of CDs by touching two buttons and walking away.

Mr. GREENSPUN. OTA already found most people copy their own music. I think if you want to make a copy for your car we are hoping to make a car unit, the PCM 44.1 is a lot more convenient than a DAT machine. We introduced this product because we thought it would be convenient for people to have six- or eight-hour tapes.

Mr. BERMAN. If you want to go out and buy it, the hardware manufacturers do not sell you one piece of recording equipment for your home and give you another piece free for your car. They charge you for the cassette player in your car.

Senator BREAUX. I think I am sorry I asked that question.

Thank you, Mr. Chairman.

Senator INOUYE. Senator Exon.

Senator EXON. Mr. Chairman, thank you very much.

Gentlemen, let us go back, and I know this is a very, very serious problem. And I have been trying to figure out the rights and wrongs of it. I suspect that everyone in this room, except myself, at one time or another has made a recording of a 78 rpm or a 45 rpm record onto some kind of a tape machine for whatever reasons. I have never done that, but I suspect that——

Mr. BERMAN. You are my idol, Senator Exon. [Laughter.]

Senator EXON. I suspect there are some people who have done that over the years. What I am saying is, has not this problem of making unauthorized copies of produced material been with us for a long time?

Mr. BERMAN. Yes.

Senator EXON. Well, is the problem before us different from what we have had in the past because the sound quality is much better?

Mr. BERMAN. Precisely.

Senator EXON. Is there anything else?

Mr. BERMAN. It is precisely the quality. That would be a unique feature in the current taping environment. When you are taping through analog, each succeeding generation you get a degradation, and so you would reach a point where it simply would not make sense for you, because you would not want that quality copy.

In a digital environment, each copy produces a perfect copy. There is no degradation. And so there would be very little incentive to buy, when in fact you could copy a product of the same quality.

Senator EXON. So what you are saying is that, as an industry, you are primarily concerned about the vast amount of copying that is being done, or will be done in a home, where someone buys one of these wonderful devices and then they will buy one compact disk and make unlimited and possibly give them away to their relatives and friends?

Is that the thrust of the situation?

Mr. BERMAN. I am concerned about that, and I am concerned that those copies, in turn, once they are out there, could make perfect copies as well. So the aunt and the uncle who are the beneficiary would, in turn, be able to make copies for their nieces and nephews. And every person down that line would have an audio carrier the sound quality of the same type that we would offer you for sale as an original.

Mr. **Friel**. Senator, may I add something, please?

Senator **Exon**. Yes.

Mr. **Friel**. I guess it cuts to the heart of the argument, this DAT machine is not going to change your behavior or my behavior. It is going to give us better quality sound.

Senator **Exon**. Well, I have never done it.

Mr. **Friel**. I have not either. And so I am with you. We in fact have just a better sound quality is all that we have. Because we have a DAT machine now with better quality sound, it does not mean this entire room is going to run out and become tape pirates. That did not happen with this device, and that is what the OTA said, and it is not going to happen with that device with our bill.

Mr. **Greenspun**. I would like to know why Mr. Berman is so reluctant to innovate. You probably are not aware of the maniac audiophiles, there are about a million of them worldwide. They still listen to LP records. They forego the convenience of the compact disk, because in many ways compact disks have higher distortion than records made in the 1950s.

Now it is true that CDs have a lot of advantages, but they are not the be all and end all. This is not the final technology. What about a little innovation? What is wrong with that?

Mr. **Berman**. I agree, this is not the final technology. And quite frankly, the technologies that are on the horizon pose even greater problems.

Mr. **Kondo**. I think one of the things that is being overlooked is that the DAT format not only provides very high sound quality, but I think, from my standpoint and my consumers' standpoint, one of the biggest selling features of DAT is not necessarily the sound quality of the machine but the way it handles the tape. The cassette itself is much smaller. It is enclosed, so it is less likely to get damaged. It does not need to be handled carefully the way that CDs do.

The CD essentially replaced the record player. The DAT recorder we see as a direct replacement for the analog cassette recorder, because what it allows you is digital access. You can go to any song that you want and it moves the tape much faster. And where the CD format had its shortcomings is in the portables and in the cars. Because a Walkman CD you cannot jog with because it skips, and they also skip in the car.

And so the DAT format would essentially replace the analog Walkman and replace the analog car cassette. And that is where I really see the boon of the DAT. And that is why I really feel that this whole thing is being clouded over, and it is the consumers, the customers who are being deprived.

Mr. **Feldman**. This addresses a point I made earlier with regard to copying and making compilations. Mr. Kondo is absolutely correct that in a car it is a much more preferable format. And what I would do, frankly, with my collection of CDs is rather than buy a CD player for my car, have a DAT player only in my car and make my own compilations from CDs, strictly for my own use, from my own CDs, in my car DAT player, which, as he suggested, would ultimately replace the familiar cassette.

Frankly, I find inserting a CD in a car as a dangerous proposition when you are driving. It is very difficult to handle. It does get dirty and scratched, whereas with a DAT tape—we are all familiar with inserting a cassette in a car player, most of us have one. So it is just an extension of that technology.

Senator EXON. Thank you, gentlemen. Thank you, Mr. Chairman.

Senator INOUYE. Senator DeConcini?

Senator DECONCINI. Mr. Chairman, I know time is moving along and we have another set of witnesses, but let me just clarify something. Mr. Friel, if we pass nothing, if Congress does not address this, your industry is going to move ahead with this technology and Mr. Kondo is going to have these DAT recorders without any limits. Is that what is going to happen?

Mr. FRIEL. Well, not at all, Senator. I just returned from the Consumer Electronics Show, and I read probably the same reports that you have that indicated that several manufacturers are going to import SCMS technology into the United States.

We had an interesting keynoter at our Consumer Electronics Show, and his name was Mr. Morita. He is Chairman of Sony Corporation. In that keynote speech he indicated that when he introduced the BETA machine he made a mistake. He introduced the BETA machine, and he did not think about the software community. He said he knows that in the future, and I know too in the future, that we have to have both sides of the equation. What this bill does for us, it puts in technology in the tape recorder. It encodes the software side, which is Jay's side, and it gives a benefit to the consumer that he knows the DAT technology—

Senator DECONCINI. My point is, what happens if we do not pass this?

Mr. FRIEL. Well, then we will probably basically have a razor without a blade.

Senator DECONCINI. But you will still be able to sell your machines, will you not? You just cannot guarantee what Mr. Kondo's customers are going to have in the future.

Mr. FRIEL. No, sir. We will have the machine that we can sell, but there would be no benefit to the consumer.

Mr. BERMAN. One of the problems, Senator DeConcini, would be that the export of machines from Japan would currently be governed by the MITI guidelines, which would require that they have the SCMS circuitry in them. That obligation——

Senator DECONCINI. That is voluntary?

Mr. BERMAN. Well, it is voluntary only in the sense that they would have to comply with the rule. They could always change the rule, but it would not be an obligation imposed on any other manufacturer, as a result of which other manufacturers might decide that they could gain a competitive advantage and offer a DAT recorder without SCMS.

Senator DECONCINI. Is that not where we would be headed, if we do not pass anything?

Mr. BERMAN. I think you would have to ask that to the manufacturers.

Senator DECONCINI. Mr. Friel, is that not where you would see we would be going?

Mr. **Friel**. Yes, Senator.

Senator **DeConcini**. So now, Mr. Berman, from your point of view, you have testified many times in favor of a royalty on blank tapes.

Mr. **Berman**. That is correct.

Senator **DeConcini**. You are opposed to duplicating tapes because your industry loses something, as you say, and so you have found a compromise here that you are willing to permit—one original to be made without a royalty on it—and the two of you have agreed that this is better for the consumer as well as yourself, because the consumer's benefit is going to benefit your financial bottom line, correct?

Mr. **Berman**. Well, I would like to modify that.

Mr. **Friel**. That is correct, Senator.

Mr. **Berman**. It may be correct for him. It is not correct for me. We have a large area of agreement and we have an area of disagreement in regard, quite frankly, to permit the amount of home taping that you pointed out would exist. Which is to say, you would be able to make a first-generation copy from a CD. My view is that that we should be compensated by a royalty system, and the best way to do that would be to develop a debit system that would reguire the home taper to pay for the privilege of taping.

Senator **DeConcini**. But you are willing to give that up?

Mr. **Berman**. No, I am not willing to give that up. I am willing to enact this bill and make an effort to try to secure that royalty. I am not prepared to give it up.

Senator **DeConcini**. I understand. Excuse my wording. You are willing to go ahead with this bill now and then deal with your position that there ought to be royalties on tapes at a later date.

Mr. **Berman**. I am prepared to do that, because these machines are coming here, yes.

Senator **DeConcini**. And there is no stopping these machines from coming here unless we pass some legislation? Mr. Friel, is there any stopping it?

Mr. **Friel**. I agree with you, Senator.

Senator **DeConcini**. Thank you. Thank you, Mr. Chairman.

Senator **Inouye**. I thank you very much. Mr. Kondo, thank you for coming all the way from Honolulu. We appreciate it.

Our second panel, may I call upon Mr. Murphy, Mr. Weiss, Mr. Smith, Mr. Wilson and Mr. Holyfield. Gentlemen, welcome. May I call upon the President and Chief Executive Officer of the National Music Publishers Association, Mr. Edward Murphy.

STATEMENT OF EDWARD MURPHY, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL MUSIC PUBLISHERS ASSOCIATION, INC.

Mr. **Murphy**. Thank you, Mr. Chairman and members of the Subcommittee. My name is Edward P. Murphy, and I am President of the National Music Publishers Association, Incorporated. On behalf of the (C) Copyright Coalition I thank you for the opportunity to testify today.

Just a moment ago, Senator DeConcini made a comment about what could be done—what the possible remedies may be—if the

DAT equipment comes in to the United States, and I would like to make a comment on that, Mr. Chairman. We believe that the copyright owners have the exclusive right to authorize copying. As to unauthorized copying at home, none of that should be permitted.

We believe that under the copyright law we may have a justification to bring legal action, so that we have contemplated such action, and we have drafted a complaint, and we do believe that we can bring a complaint here in the judicial system, and we are also investigating other possibilities. In this regard, the coalition has written to Secretary of Commerce Mosbacher and the U.S. Trade Representative, Carla Hills, urging their best effort to stop Japan's export of the DAT machines pending the outcome of the search for a solution, and indicating our own consideration of a trade action and litigation. A copy of this letter has been submitted to the Subcommittee.

Our coalition has grown to include more than 30 songwriter and publisher groups across the United States as well as the Authors Guild and the Dramatists Guild. We represent more than 50,000 Americans, individuals and businesses, that share a common goal—safeguarding the protection of music copyrights. With me are two of America's greatest songwriters, SGA President George David Weiss, and ASCAP board member Wayland Holyfield. Joining us is Ambassador Michael Smith, a former Deputy U.S. Trade Representative.

S. 2358 is a bad bill, and the Copyright Coalition urges you to reject it. Our testimony will show that the measure undercuts our right, under the Copyright Act to control reproduction of our music. It fails to provide compensation for the unauthorized copying that the bill would permit, and in fact encourages.

We believe it wastes Congress' time by focusing exclusively on DAT and ignoring other technologies already in the marketplace and soon to emerge. It is inconsistent with the steps being taken by other nations to deal with unauthorized copying. It is inconsistent with the policy of the United States as advanced in international intellectual property negotiations, and finally, the SCMS fix can easily be circumvented.

The American music community has struggled for years to solve the problem of unauthorized taping, and for years our legislative efforts have been blocked by the Home Recording Rights Coalition, a rich and powerful lobby funded overwhelmingly by foreign-dominated consumer electronics industry.

After so much conflict, it is easy to understand why Congress would welcome any compromise that appeared acceptable to all affected interest, but please do not believe for one minute that S. 2358 is even a partial solution. S. 2358 and the DAT deal it implements are the result of a series of meetings—in London, Amsterdam, Athens and elsewhere—between representatives of the international recording industry and the consumer electronic giants of Japan and Europe.

Even though music rights owners and creators have a separate copyright interest not represented by the record companies, the parties to the agreement shut us out. From the very beginning, the process held little promise of genuine compromise. The electronic companies of Japan kept any serious discussion of compensation alternatives off the table. Technical solutions proposed by the record companies were also rejected. The hardware manufacturers turned down a fix that would have permitted a single copy to be made from a CD onto a blank DAT.

The compromise that hardware companies accepted was one of their own devising—SCMS—and make no mistake about what SCMS does. It does allow an unlimited number of copies to be made from any digital source, and where a first generation copy is made from an analogue source, a second generation digital copy is possible. The Copyright Act now grants us the exclusive right to authorize reproduction of our protected works, subject to certain limitations that do not apply to the practice of taping music. Music publishers and songwriters are worried that S. 2358 would change that. We fear that the measure could be interpreted as accepting as noninfringing the unauthorized first generation copying permitted by SCMS. No matter what the backers say, S. 2358 would work a dramatic and an unprecedented change in songwriters' and music publishers' rights under the copyright law.

The bill's prohibition against inaccurate generation status coding says music rights owners do not have the same right, for example, as owners of rights in motion picture who can and do encode videotapes to prevent all copying. S. 2358 would force us to give away and unlimited number of first generation copies to anyone with the money to buy a foreign-made DAT recorder. It would render us liable to the DAT manufacturer if our works were encoded for increased protection.

The foreign DAT manufacturers know that S. 2358 guts copyright. That is why they support it. They do not need SCMS to bring their machines into the country. They just want S. 2358 as their shield. But senators, if you do not want to shift the copyright balance in their favor, if this is not the result you intend, we urge you, please, reject this bill.

Moreover, S. 2358 is a bad bill because of its piecemeal approach. S. 2358 responds to a snapshot of digital audio recording technology taken more than a year ago, and it does asks Congress to implement SCMS for DAT, but to legislate later for all other devices. Next year, Philips plans to introduce the digital compact cassette, the DCC, which it describes as a digital audio tape recorder, but it uses standard size cassettes and is certainly not like the DAT recorders that will be demonstrated and have been demonstrated to the Subcommittee here today.

Mr. Berman of RIAA has introduced a new amendment concerning the DCC which we have not had an opportunity to look at. I think this development demonstrates clearly how quickly the marketplace of technology is changing, and how the decisions of others can affect our interests without any consultation at all with songwriters or the publishers. This development also makes one thing plain. If this legislation passes, there will be no end to the stream of new technologies that manufacturers will try to label "DAT." The parade of technology problems does not end with DCC either. The press is full of reports on the next wave of products designed for digital copying of music, including erasable, rerecordable compact disks, the Isosonics super black box, and mini digital recorders, and even solid state recording technologies.

S. 2358 has so many flaws it makes you wonder why so many record companies support it, but one thing is certain. The real backers of S. 2358 are the foreign DAT manufacturers whose subsidiaries in recent years have come to include two major U.S. labels—Sony, CBS Records and Polygram, a division of Philips. These foreign manufacturers, through their electronics subsidiaries, rely on EIA and the Home Recording Rights Coalition to actively represent their interests. But they signed the DAT deal, and they are the ones that will benefit from it.

The representatives of our coalition are willing to sit down with all affected parties to work out a legislative proposal aimed at resolving the digital copying controversy fairly and comprehensively. To do that, the issue of compensation for rights owners and music creators must be on the table. This issue is crucial to the music creators and the rights owners, because, unlike the record companies, or for that matter any company faced with theft or pilferage, we have no way to recover losses we incur. The modest rate of royalties we receive is fixed, and the payments are made only on copies that are distributed and not returned.

Mr. Chairman, you should know that the Copyright Coalition has accepted Mr. Berman's invitation to meet with the record and hardware companies to discuss the implications of DCC for S. 2358. We understand that Philips, too, has agreed to participate, and we have been assured that the subject of remuneration for rights owners will be discussed. If the Japanese hardware manufacturers are willing to come to the table to resolve the fundamental copyright issues their products raise, a real solution to the unauthorized taping problem might finally be achieved.

For all these reasons, we urge you to delay further consideration of S. 2358. Thank you, Mr. Chairman.

[The statement follows:]

Statement of
EDWARD P. MURPHY
President
National Music Publishers' Association, Inc.
on behalf of the
© COPYRIGHT COALITION

Before the
Subcommittee on Communications
Committee on Commerce, Science
and Transportation
United States Senate

June 13, 1990

Mr. Chairman and members of the Subcommittee, my name is Edward P. Murphy. I am president and CEO of the National Music Publishers' Association, Inc. ("NMPA"). On behalf of the © Copyright Coalition, I thank you for the opportunity to testify today.

© Copyright Coalition

The © Copyright Coalition was founded in October 1989 by NMPA, The Songwriters Guild of America ("SGA") and the American Society of Composers, Authors and Publishers ("ASCAP"). We united to oppose S. 2358/H.R. 4096, legislation that would rely solely on the Serial Copy Management System ("SCMS") to address the copyright issues raised by digital audio tape ("DAT") technology.

Over the past eight months, our Coalition has grown to include more than 30 songwriter and publisher groups from across the United States, as well as the Authors

Guild and the Dramatists Guild.[1] Our membership includes more than 50,000 individuals and businesses that share the goal of promoting the protection of music copyrights.

Summary of Copyright Coalition Testimony

I am pleased to have with me SGA President George David Weiss, the writer of many American standards, including "The Lion Sleeps Tonight" and "What a Wonderful World," and Wayland Holyfield, whose hit "Could I Have This Dance," took him to the top of the country-western and pop charts, and who serves as a member of ASCAP's Board of Directors. Also joining our panel is Ambassador Michael Smith, former Deputy United States Trade Representative.

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[1] In addition to SGA, ASCAP and NMPA, the © Copyright Coalition comprises the Arizona Songwriters; the Authors Guild; the Connecticut Songwriters Association; the Dramatists Guild; the Las Vegas Songwriters Association; the Los Angeles Songwriters Showcase; the Louisiana Songwriters Association; the Louisville Area Songwriters; the Midwest Songwriters Association; the Missouri Songwriters Association, Inc.; the Music Publishers Association (USA); the Nashville Songwriters Association International; the National Academy of Songwriters; the National Academy of Composers/USA; the New England Musicians Association-Boston; the Northern California Songwriters Association; the Ohio Songwriters Association; the Pacific Northwest Songwriters; the Pennsylvania Association of Songwriters; the Pittsburgh Songwriters Association; the Rocky Mountain Music Association; the Santa Barbara Songwriters; SESAC; the Snowbelt Songwriters Guild; the Songwriters Association of Washington (D.C.); the Songwriters Hall of Fame; the Songwriters of Wisconsin; the Southwest Virginia Songwriters Association; the Southern Songwriters Guild; the Tennessee Songwriters Association; the Texas Songwriters Association; the Triad Songwriters Association (North Carolina); and the United Songwriters Association (Kansas City, Kansas).

Our testimony will examine in detail the flaws and inadequacies in the SCMS system and the reasons why our Coalition believes Congress should reject the proposed legislation to implement it.

- I will discuss the serious copyright implications of S. 2358, the narrowness of its approach, and the ways in which its already generous "limits" on copying can be defeated.
- Mr. Weiss will explain how home taping hurts American music creators and will provide the Subcommittee with important new information showing how DAT will exacerbate the problem. He will also review actions taken and contemplated by other governments in response to home audio taping and DAT.
- Mr. Holyfield will provide an individual songwriter's perspective on DAT and unauthorized audio taping.
- And finally, Ambassador Smith will explore the international trade implications of DAT and the importance of U.S. legislative precedent in advancing the goal of improved protection of U.S. intellectual property in foreign markets.

Protection Of Music Copyrights

Songwriters and music publishers do not have a "product" to sell, in the traditional sense. We don't make and sell records. Our side of the music business is rooted in the creative process: we simply write music and promote its use and enjoyment.

Our livelihood is derived solely from the exercise of exclusive rights in intellectual creations, granted by the Copyright Act. Songwriters and music publishers generate income by authorizing others to use our works, for example in public performances or by distribution of what the law calls "phonorecords" -- albums, cassettes and CDs. When our music is used without authorization, we get nothing.

Music creators -- like the record companies -- are harmed by the pervasive practice of unauthorized taping for home use. But our interests under the copyright law are distinct. For a record company to use a protected musical work in a sound recording, it must either obtain a voluntary license from the music publisher, or avail itself of the compulsory license provided under the Copyright Act. In either case, the songwriter and music publisher share in a modest royalty -- as little as 1 3/4 cents per song, but never more than the greater of 5.7 cents per song or 1.1 cent per minute of playing time.

These "mechanical royalties" are received only when a record, cassette or CD is sold. Any reduction in the volume of sales means a reduction in our income. And, since the maximum payment per record is effectively fixed by statute, and is almost always lowered by the terms of the license (reflecting the superior bargaining position of the record companies), we have no way to adjust license fees to recover losses incurred.

So you can see why home taping is such a direct and significant threat to our segment of the music industry. And perhaps you can better understand why songwriters and publishers have had to break with the U.S. record companies over SCMS.

S. 2358 Is No Compromise

As members of the Subcommittee are aware, the American music community has struggled for years to solve the technology-driven problem of unauthorized taping. And for years, our legislative efforts have been blocked by the rich and powerful lobby funded by an increasingly foreign-dominated consumer electronics industry.

It is easy to understand why Congress would welcome any solution to this seemingly intractable problem that appeared acceptable to "all" affected interests. But don't believe that S. 2358 is that solution.

The DAT Recorder Act was crafted without the participation of the very people who create America's music and promote its use. Our input and our interests were not taken into account. The bill has certain benefits -- for the foreign manufacturers who seek another lucrative export market and desire to avoid protracted litigation with the recording industry. But all its risks and burdens, and its irreparable harm, will fall on the American creative community.

It is no secret that in 1988 the music industry faced a frustrating lack of progress in campaigns for a legislative response to home taping. It was this frustration, deepened by reports of the imminent arrival of DAT units in the U.S., that led many in the industry -- and some on Capitol Hill -- to conclude that talks among the affected interests might yield a productive resolution.

Well, the talks took place, but not everyone who should have participated was given a seat at the table. In late 1988, representatives of the international recording industry and the leading electronics companies of Japan and Europe launched a series of meetings to explore possible ways to resolve the DAT standoff. Unfortunately, despite music rights owners' and creators' direct stake in the outcome, the parties determined to exclude us from participation in the initial meeting in London, as well as from subsequent meetings of principals and staff.[2]

We are given to understand, however, that the consumer electronics companies of Japan succeeded in keeping any serious discussion of a system of equitable remuneration off the agenda. They simply asserted that the topic was beyond the scope of their mandate. Technical solutions proposed by the record companies were also rejected: participants reported that the hardware manufacturers gave a thumbs down to a technical solution that would have permitted a single copy to be made from a CD onto a blank DAT.

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[2] Music rights owners were invited to attend a final meeting held in Athens in June of 1989 as "observers." This meeting was held after the parameters of the hardware-software industry agreement had been identified. Because we had not been involved in the numerous meetings leading up to Athens and had no meaningful role in shaping the terms of the deal, we declined to accept such limited involvement.

The "solution" the hardware companies were willing to accept was one of their own devising: the serial copy management system, or "SCMS." SCMS permits not one copy, but one "generation" of copies to be made from a digital source via the digital output of a CD player or DAT unit.

To sweeten the outcome, the European-based electronics companies agreed that they would not oppose record industry efforts to secure royalty legislation at the national level. The Japanese companies expressly declined to make such a commitment.

In June 1989, the recording industry accepted this deal at a meeting in Athens, and agreed to join with the other parties in seeking legislation to implement SCMS.

Representatives of the Recording Industry Association of America ("RIAA") attempted to assure others in the American music community that SCMS was the "best they could do" -- for now. They told us that they would try for a better technical fix for future technologies and would rejoin the campaign for royalties -- later. They asked our support for the "compromise" they had struck.

Webster's Ninth New Collegiate Dictionary defines "compromise" as the "settlement of differences by arbitration or by consent reached by mutual concessions." We find it difficult to find the compromise in the DAT deal.

Sure, the recording industry made its concessions: it agreed to a generational limit on copying that jeopardizes its own rights -- and the rights of songwriters and publishers who were not even a party to the deal -- to control the reproduction of works protected by copyright.

But where are the hardware industry's concessions? Its representatives continue to assert that individuals have an unwritten "right to tape" that somehow overrides the exclusive rights granted by the Copyright Act. They continue to say that rampant unauthorized taping causes the music community no economic harm.

We believe that, in accepting SCMS, the manufacturers of DAT recorders have done no more than endorse legislation that stands to jeopardize the prospects for a copyright owner's success in a contributory infringement action.

SCMS Is An Inappropriate Response To The Problem Of Unauthorized Digital Audio Taping

Music creators and publishers are most concerned by S. 2358's potential impact on a copyright owner's ability to control the reproduction of protected works. We fear that the measure could be interpreted as accepting, as non-infringing, the unauthorized first-generation copying of our music that SCMS permits.

Section 106(1) of the Copyright Act grants owners of copyright the exclusive right to authorize the reproduction of protected works in copies or phonorecords, subject to certain inapplicable limitations provided in subsequent sections. The general right of reproduction under Section 106(1) applies to unauthorized reproductions, even if the copies are not offered for commercial sale, and even where no public distribution is made. This construction of the Act is supported by the leading commentators,[3] and by distinguished members of the copyright bar, including former Register of Copyrights Barbara Ringer and Irwin Karp, counsel to the Authors League of America.[4]

The battle between rights owners and hardware manufacturers over home audio taping -- and especially digital audio taping -- persists because the Copyright Act does not speak directly to consumer-use recording technologies, either in the grant of rights or its limitations. For this reason, members of the © Copyright Coalition believe that any productive and fair resolution of copyright issues raised by DAT must specifically address the problem of home audio taping under the Copyright Act. We oppose S. 2358 because it takes precisely the opposite approach.

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[3] See, e.g., M. Nimmer & D. Nimmer, Nimmer on Copyright, § 8.05[C], p. 8-88 (1989).

[4] Ms. Ringer and Mr. Karp will submit statements for the record of this hearing.

Sections 7 and 8 of the proposed DAT Recorder Act provide that nothing in the bill extends greater or lesser rights with respect to home audio taping than currently exist under the Copyright Act. On the surface, it might appear that the language of sections 7 and 8 merely serves to buck the home audio taping controversy to some future Congress -- or more likely, to the courts. But the substantive provisions of S. 2358 reveal that the bill does affect the rights of copyright owners.

Specifically, section 3 would make it unlawful to manufacture or distribute any DAT recorder that is not equipped with SCMS. We fear it will be argued that, under the legislation, the marketing of an SCMS-equipped DAT recorder would be lawful.

At the same time, S. 2358 would make it unlawful for any person -- including a copyright owner -- to encode copies of protected works to prevent all copying. (See section 3(d)'s prohibition against encoding a phonorecord with inaccurate generation status information.) In essence, the bill forces a give-away of at least one generation of copies. Moreover, section 5 would subject a rights owner to liability for damages -- of $10 to $100 per phonorecord -- if he were found to have encoded works for increased protection. In other words, S. 2358 renders copyright owners liable for damages to DAT manufacturers if our copyrighted works are encoded for protection against unauthorized first generation copying!

For music publishers and creators seeking to enforce their copyrights, the central question raised by the possible enactment of S. 2358 becomes this: how would a court square the exclusive reproduction right granted by the Copyright Act against the rights, obligations and remedies provided in the SCMS bill in a copyright infringement action brought after the latter's enactment? The vague assurances of sections 7 and 8 aside, other provisions of S. 2358 point to a significant erosion of the copyright owner's reproduction right and possibly diminished prospects for success in such an action.

Contrary to what its proponents assert, S. 2358 would force a dramatic and unprecedented change in songwriters' and music publishers' rights under the copyright law. It would effectively give music and sound recording rights owners less control over the reproduction of their works than that enjoyed by other rights owners. For example, no one disputes that copyright owners in motion pictures have the right to encode video tapes to prevent all copying. No one disputes that certain cable and satellite transmissions can be encrypted to prevent reception by unauthorized parties. Yet S. 2358's prohibition against "inaccurate" generation status coding says music rights owners don't have the same right.

The very heart of copyright law is the regulation of reproduction of protected works, and remedies for the violation of statutory prohibitions relating to copying. Calling a bill a "regulation on commerce" does not make it so. The plain fact is that S. 2358 responds to a copyright problem by creating certain rights for manufacturers and imposing certain obligations on copyright owners. The bill reduces copyright protection and sets a dangerous precedent for a host of copyright issues raised by new technologies, from computer software regulation to photocopying.

The Register of Copyrights and the Chairmen and Ranking Minority Members of the House Judiciary Committee and its Subcommittee on Intellectual Property agree that home taping is a key copyright issue, and that the SCMS bills could have profound implications for the shaping of copyright policy. They have urged that H.R. 4096 be referred to the Judiciary Committee, where a full legislative record could be established.

Sections 7 and 8 say only that S.2358 "does not affect any right or remedy, or any limitation on such right or remedy" under the Copyright Act. But the extent of those rights, remedies and possible limitations is not addressed. In light of the substantive obligations established by

S. 2358, and the absence of a record of consideration by the congressional committees with jurisdiction over copyright issues, we fear that a court could conclude that -- at the time of the bill's enactment -- Congress deemed the level of copying permitted by SCMS (and, consequently, the manufacture of SCMS-equipped devices) to be non-infringing.

The foreign hardware manufacturers, the Electronics Industry Association ("EIA") and its surrogate, the Home Recording Rights Coalition ("HRRC"), would surely delight in this change in the law. But, Senators, if you do not wish to shift the copyright balance in their favor, to the detriment of America's creative community -- if this is not the result you intend -- we urge you to reject this bill.

SCMS Is An Inadequate Response To The Problem Of Unauthorized Digital Audio Taping

The Generational Copying Limitation of SCMS Is Arbitrary, and Bears No Relation to Home Taping Behavior.

Apart from the significant copyright implications of S. 2358, the SCMS system itself is an inadequate response to the problem of unauthorized digital audio taping. SCMS addresses only "generational copying." The backers of SCMS say the technology represents an important development because it would place curbs on the generational "cloning" capability which distinguishes DAT from traditional analog recording. But let's be absolutely clear about what SCMS would and would not accomplish.

SCMS is not a one-copy solution. The system would permit one generation of perfect digital-to-digital copies to be made through the digital input of a DAT recorder. Inhibiting "second-generation" copying does not mean that only one copy of a CD or other original source could be made onto DAT. It means that an unlimited number of perfect digital copies could be made from a digital source -- so long as each copy were made from the prerecorded original. In other words, the first generation could include any number of "children," from two to two hundred or more. And each would be a perfect clone of its digital parent.

As my colleague George Weiss will explain, the inadequacy of a generational limit on copying from copies is driven home by survey data showing that two-thirds of tapers who would like to own and use a DAT recorder to copy music say that they would borrow and tape prerecorded CDs. SCMS would place no curbs on such copying.

Limits on copying from an analog source are even weaker. Here, SCMS would allow two generations of copies. This means that a homemade DAT tape made from a traditional analog cassette or LP could be copied digitally an unlimited number of times, and that the resultant first-generation copies could each be copied an unlimited number of times.

Only direct digital-to-digital copying of these second-generation copies would be blocked.

The inadequacies of SCMS become clearer still when you consider that the vast majority of CD players currently in use are equipped with an analog output. Only more recently manufactured units are capable of providing the direct digital output that would make only one generation of copies possible. As a result, SCMS would permit two generations of copies from virtually every source currently in the hands of potential DAT tapers.

S. 2358 Responds to Only One Technology in an Expanding Digital Taping Universe.

S. 2358 responds to a snapshot of the digital copying technology taken more than one year ago. The bill does not even attempt to tie SCMS to imminent advances.

For purposes of the pending legislation, the most significant of these is Digital Compact Cassette ("DCC") technology being developed by Philips. DCC has actually been described as a "digital audio tape" recorder, but it is certainly not like the DAT that will be demonstrated to members of the Subcommittee today. DCC recorders will use standard-size cassettes. And they will have a feature that regular DAT recorders do not have -- they will allow users to play traditional analog cassettes on a digital machine.

As with original DAT, DCC could be used to make digital clones. But in the case of DCC, only from another

DCC machine. Serial copying from one DCC machine to another would also be possible.

Are these new DCC/DAT machines subject to the SCMS requirements of S. 2358, or are they covered by the terms of the Athens Agreement calling for new talks on future technological developments? We don't know, and we doubt that the hardware and software sides of the Athens deal are in agreement. The development makes one thing plain, however: if this legislation passes, there will likely be a stream of new technologies that manufacturers will try to label "DAT".

The "parade of technologies" problem doesn't end with DCC either. The press is full of reports touting the capabilities of the next wave of products designed to facilitate digital copying of music. I will discuss only a few.

- Recordable/erasable compact discs: This product has been taken to the working prototype stage by Sony and Philips and by Thomson. Other companies reportedly have similar models in development. It employs magneto-optical ("MO") discs that can be used to record digitally, over and over again. MO disc machines can play existing CDs and can record and erase MO discs. (An MO disc, however, cannot be played on a regular CD player.)
- Mini digital recorders: Sony has demonstrated prototype mini digital recorders, and marketing representatives have indicated that the products might be available as early as 1991. The devices take basic DAT technology into the miniaturization phase. They are the size of a credit card, with two-hour digital tapes not much larger than a postage stamp. These machines could ultimately replace the Walkman, but are initially being

promoted as voice recording devices of slightly less than CD quality (80 db dynamic range vs. 90 for CD).

- Digital 8mm PCM Stereo/Video Camera Recorder: The Sony CCDV Video Camera carries a digital audio track. The device is both a high-quality video camera/recorder and a digital audio recorder. It allows up to three hours of DAT-quality music recording without SCMS or other copying restrictions.

- VCR-based digital audio recording technology: This new digital audio recording technology is made possible by a device already on the market; a sophisticated "black box," called the "PCM 44.1." The product was developed by Isosonics Company (whose representatives will also testify at today's hearing). The device is connected to electronics products many people already own -- a CD player and a standard video cassette recorder. Its job is to convert the digital signal from the CD player to a video signal the VCR can record. It enables up to six hours of digital music to be recorded on a $3 blank video cassette.

- Solid-state digital recording technologies: These cutting-edge technologies could eventually replace software-based recording equipment. Given enormous improvements in computer memory, digital music computer chips may be only a few years down the road. A "Wafer Stack" memory system has already been developed using existing wafer technology. Although still relatively crude and very expensive, this development points toward the day when digital music will be recorded and stored on personal computer equipment.

In addition to these recording technologies, which depend almost exclusively on prerecorded Cds for digital source material, there is a rapidly emerging industry dedicated to the development of methods for the digital transmission of music. The result: a river of protected music flowing into every home. A few of these developments include:

- Cable TV digital music transmission: Plans have been announced for the introduction of a digital music service to cable TV subscribers by the fall of 1990. The system will carry 27 channels of music programming, and will, for the first time, allow the direct recording of digital music from cable TV lines. Cable companies representing 5 million potential subscribers have already signed onto the service, which is tailor made to feed DAT machines or other digital recorders an unlimited supply of music.

- Fiber optic music transmission: Developers of a new fiber optic technology -- capable of carrying enormously increased information loads -- say it will lead to a revolution in the information and entertainment industries. As super fiber optic cables replace existing cables in both telephone and cable TV transmission systems, new opportunities for the digital transmission of music will emerge. Already, many telephone service providers are exploring the possibility of carrying TV and digital music programming.

- Digital audio broadcast: A digital broadcast system would be capable of transmitting digital music over the airwaves. Such distortion-free music transmission would represent a significant advance over FM stereo broadcast systems.

- Satellite transmission of digital music: Europe has already launched a satellite that transmits 16 stereo programs of CD quality. In 1991, it is expected that satellite music will reach the U.S. As the size and cost of satellite receiving dishes comes down -- the newest ones are about the size of a dinner napkin and cost about $300 -- the number of homes capable of receiving this digital music will rapidly increase.

I have not described these important advances in technology because our Coalition opposes them. That is simply not the case. We appreciate their potential benefits for the American public and for our industry. Particularly in the area of new digital transmission systems, I am sure that members of the Subcommittee appreciate their implications far better than we do. Rather, I have taken the time to report them to you because they demonstrate that S. 2358 and the approach it represents is not even a finger in the dike.

The emergence of DCC has already raised questions about the scope of S. 2358. Will another bill be required when it is introduced? What about MOD technology? What about mini-DAT? Does your Subcommittee have the time to legislate "copyright-related" protection for every new technology?

Mr. Chairman, we believe that the one-technology/ one-bill approach of S. 2358 is unreasonable. It places unjustifiable demands on Congressional resources and contributes to confusion in the marketplace. And it doesn't even solve the underlying copyright problem.

SCMS Is An Ineffective Response To The Problem Of Digital Audio Taping

We have shown that SCMS is an inadequate, piecemeal response to digital recording technologies. The testimony of George Wilson, an engineer with Stanley Associates, will demonstrate to you that the system is also ineffective.

As I mentioned earlier in my remarks, it is possible to obtain two generations of copies simply by using an analog output to obtain the first copy. The resultant degradation in sound quality would be inaudible to most listeners.

But that isn't the only way to get around SCMS. SCMS is a relatively straightforward system, triggered by a single "bit" of encoded information. The system can be defeated at a minimal cost, without having to enter or alter the equipment in any way, and with no more expertise than an accomplished hobbyist. A simple circumvention circuit, constructed from items available locally at retail electronics shops, can enable a DAT taper to make perfect digital-to-digital copies without limit.

Mr. Wilson will explain the design and operation of the circuit to you in detail. But I'd like to provide some background on the obstacles we encountered in obtaining the equipment necessary to test its operation.

Even before the SCMS legislation was introduced, we suggested that the Administration direct the National Institute for Standards and Technology ("NIST") to conduct an independent evaluation of the system's effectiveness, as well as ease of circumvention. A similar evaluation of the CBS copy-code system, conducted in 1987, revealed flaws significant enough to dampen Congress's enthusiasm for the legislation implementing it. To our knowledge, although received as a reasonable proposal, no such project has been undertaken.

Because our Coalition believes that a fair evaluation of S. 2358 depends on a thorough assessment of the SCMS system's shortcomings, as well as its perceived merits, we decided to proceed on our own. We contracted with a highly regarded engineering firm to perform such an evaluation. To this end, we attempted to obtain DAT recorders equipped with SCMS and found that none were available -- even on the gray market -- in either the United States or Japan.

We wrote to Sony Corporation officials and asked to purchase two properly equipped SCMS recorders, and our request was denied. Instead, our engineers were permitted to view a demonstration of SCMS, but were again told that they could not evaluate it first-hand. We requested an opportunity to have access to SCMS-equipped machines -- in the presence of Sony representatives -- for the sole purpose of playing and attempting to copy several tapes prepared by our engineers. We were advised that, to do so, we would have to travel to Tokyo -- less than a week before this hearing -- even though suitable DAT recorders were available in the U.S. for today's demonstration and for similar demonstrations for congressional staff.

Stanley Associates has tested its circumvention circuit so far as possible with DAT equipment now available in retail outlets, despite Sony's refusal to make SCMS-equipped devices available to our Coalition for this purpose.

If the Subcommittee agrees that a thorough evaluation of SCMS is desirable, and that NIST should be directed to perform such an evaluation, we would be pleased to cooperate in these efforts.

S. 2358 Does Not Treat All Affected Interests Equally

In addition to its more obvious flaws, S. 2358 attempts to preserve the "closed club" atmosphere of the agreement that spawned it. It perpetuates a situation in which music rights owners and creators cannot participate fully in adjustments to SCMS technical requirements or in the extension of those requirements to the analog domain.

For example, section 4 gives the Secretary of Commerce the authority to modify SCMS technical requirements, or to adopt requirements for extending SCMS to recording from analog sources only upon petition of an interested party. The term "interested party" is defined as a DAT manufacturer, a record company or any association thereof.

A music rights owner organization -- even one that retained engineers to improve upon SCMS or extend its one-generation limit to recording from analog -- could not petition the Secretary. Nor could the Secretary act on his own initiative. Under the SCMS proposal submitted by IFPI-

Europe and the European DAT manufacturers to the Commission of the European Community ("EC"), a permanent panel would be given the authority to act upon its own initiative or upon request. Why should the Secretary of Commerce be given less flexibility?

Moreover, section 3(d) leaves the decision as to whether to encode prerecorded copies of works to claim copy protection solely to the discretion of the record company. The bill gives the owner of the separate copyright in the underlying song no basis upon which to insist that phonorecords embodying his works are protected, even against the second-generation copying limited by SCMS.

Who Benefits From The SCMS Bill

With so many flaws in this legislation and the clear inadequacies in the technical "protection" it purports to afford, one might legitimately wonder why the U.S. record companies agreed to support it. I can tell you, Senators, the answer is elusive.

The support of DAT hardware manufacturers and their subsidiaries -- which in recent years have come to include two major U.S. labels, CBS Records (Sony) and Polygram (Philips) -- is not hard to fathom. In prior legislative battles on home taping and DAT, the subsidiaries of Japanese electronics companies poured enormous resources into the fight against the American music and recording industries. Their willingness to devote these same resources to pursuing the enactment of S. 2358 should leave no doubt about who the bill benefits. The real backers of S. 2358 are the leading Japanese companies that signed the DAT deal.

At Athens, the European hardware companies acknowledged the copyright implications of DAT and agreed not to fight the music industry's efforts to obtain fair compensation for the use of their music. Their Japanese counterparts refused to make such a commitment. It is this refusal that has -- since 1986 -- made a reasoned study of a comprehensive and fair solution to digital audio taping impossible.

Other Options

The supporters of S. 2358 have criticized American songwriters and music publishers for rejecting their SCMS-only bill. They say we are throwing away an opportunity; that we are unrealistic in insisting on "all or nothing at all."

We have not insisted on all or nothing. Only that nothing is better than the dangerous precedent set by SCMS. We refuse to stand by and let the superior bargaining power of a foreign industry dictate the contours of U.S. copyright law.

In truth, other options are available; I mentioned several that were rejected or deflected by the hardware interests in the talks that led to the Athens deal.

Others were not on the table at Athens, but still have merit. Congress might choose to establish an alternative forum, open to all affected interests and in which all possible solutions can be presented and fairly considered. Such a forum is not without precedent in matters relating to copyright and technology. In 1971, Congress established the Commission on New Technological Uses of Copyrighted Works ("CONTU") to, among other things, make recommendations for legislation defining the standards and scope of protection for certain computer programs. A number of its recommendations have been implemented in amendments to the Copyright Act.

As the Register of Copyrights noted in his testimony, there is merit in pursuing a comprehensive legislative response, consistent with sound copyright policy. Toward this end, Congress, the affected industries and the public would benefit from a dispassionate assessment of the extent to which digital audio taping prejudices unreasonably the interests of music rights owners, the likely impact of future technologies on music copyrights, and related international developments and trends in copyright protection.

If Congress must take a limited approach to home taping, I urge you to consider the special circumstances of American songwriters and their music publisher partners. As I explained early in my remarks, the legal and beneficial owners of music copyrights only get paid for authorized uses of their works. The practice of home taping results in literally millions of unauthorized copies (possibly nearly one billion per year), and cuts deeply into one of our primary sources of income.

On the other hand, sales of authorized records, tapes and discs, result in modest payments called "mechanical royalties." When Congress revised the Copyright Act in 1976, it provided (in section 115) a statutory compulsory license governing certain uses of our works in such recordings. But it also established procedures (in Chapter 8) to guarantee that the uses covered by the license would generate "reasonable" royalty payments. The adjusted rate, as approved by the Copyright Royalty Tribunal ("CRT") stands at 5.7 cents per song (or 1.1 cent per minute playing time, whichever is greater).

I suspect that many members of Congress believe that the rate which is determined according to Congress's statutory plan is in fact the rate received by music creators and publishers. In fact, this is rarely the case. Our earnings -- even on sales of authorized copies of our works -- are being constantly whittled away.

The record companies have used their bargaining strength to include what are called "controlled composition" clauses in virtually every contract with a recording artist. In the beginning, these clauses appeared only in contracts with singer/songwriters; now they appear in deals with singers who don't even have a direct interest in music copyrights. They require that the artist deliver, to the record company, mechanical licenses for the songs he or she records, usually at 3/4 of the statutory rate. At the current statutory rate of 5.7 cents a song, the actual rate of payment is less than 4.3 cents, shared between the songwriter and publisher.

Our segment of the music industry -- the people whose sweat and talent create music and make it available to the public -- is getting hit. Hit hard from every side. Improved home audio taping technologies are increasing the incentive to copy rather than buy our music. At the same time, the record companies are denying us "reasonable" royalties on record sales.

I will leave it to two of America's brightest song writing talents, George David Weiss and Wayland Holyfield, to tell you how these practices drain their income and strain the creative process. But as a final point, I would urge you to remember that songwriters and music publishers can't recover their losses by raising their prices or introducing a new format. Our livelihood depends on the rights and guarantees established by Congress in the Copyright Act. I urge you to take whatever steps are necessary to protect these rights and to ensure that they are not made meaningless by the products and practices of other industries.

Mr. Chairman, I again thank you for the opportunity to address the Subcommittee today. I would be pleased to respond to your questions.

Senator INOUYE. Thank you, Mr. Murphy.

Mr. Weiss.

STATEMENT OF GEORGE DAVID WEISS, PRESIDENT, THE SONGWRITERS GUILD OF AMERICA, NEW YORK, NY, ON BEHALF OF THE COPYRIGHT COALITION

Mr. WEISS. Thank you, Mr. Chairman. My name is George David Weiss. I am the President of the Songwriters Guild of America, SGA, a national organization that represents nearly 5,000 of the world's greatest songwriters. On behalf of the Copyright Coalition, I come before you to testify against S. 2358, the Digital Audio Tape Recorder Act.

First of all, two personal comments. I want to categorically deny the statement of Mr. Berman that SGA agreed to attend the Athens meeting. It simply is not true.

Mr. Feldman, I do not know how pleased Mr. Mozart would be if he were a live composer. I strongly suspect he would be wearing my button.

Also, I have here a letter from the President of Local 802 in New York City and from the President of the Musicians Association of Hawaii vehemently opposed to the bill. I would like to append that for the record, if I may.

Senator INOUYE. Without objection, so ordered.

Mr. WEISS. My position as President of SGA is a nonsalaried one. I earn my living writing songs or, perhaps more accurately, I earn my living from the songs I write. The songs I create are my property, intangible intellectual property protected by copyright. You may be familiar with some of my music. I wrote "The Lion Sleeps Tonight", "Wheel of Fortune", "What a Wonderful World", "Mr. Wonderful", "Cross Over the Bridge", "Lullaby of Birdland", "Can't Help Falling in Love" and others.

Mr. Chairman, S. 2358 is an arbitrary and inadequate technical fix to the issues raised by DAT technology. It would have a devastating effect on the American creative community.

Songwriters depend on royalties to provide for themselves and their families. Our royalty checks are our paychecks, plain and simple. We are able to earn our income because the Copyright Act protects us against unauthorized uses of our works. No matter what S. 2358 says about not affecting our copyrights, the fact is that it allows an unlimited number of copies to be made from a prerecorded CD or DAT. It forces songwriters to give away copies of our music without payment of any kind.

A recent survey conducted by the Roper Organization demonstrates why a way must be found to compensate creators and rights owners for the substantial economic loss that will follow the advent of digital tape technology. Roper found that 100 percent of people interested in owning and using DAT equipment for taping plan to use it to tape prerecorded music. Two-thirds of current tapers interested in owning and using a DAT recorder say they would borrow CDs to copy. Those who already tape music will tape more with DAT, and many current nontapers will be lured into the practice. A projected 1 billion unauthorized music tapes were made in the past year alone, with a projected 322.5 million home made recordings displacing sales.

I am personally not comfortable citing figures, but this legislative body, I know, must have all the information before it, so I cited those figures for you. To be personal for just one moment, when I was a kid and started to write I studied and wrote and worked and wrote and studied and wrote, and I was a big flop, a big flop. Finally, when I was about at the bottom I hit the top. I wrote a song that Sinatra recorded which became number one, "Oh, What It Seemed To Be". Now that song sold 1 million copies in sheet music. Then, along came the photocopying industry. Today a number one will sell maybe 15,000 to 20,000 copies of sheet music. Then, of course, came analog taping, and now comes DAT taping.

So you see, songwriters have long been affected by the miracle and wonder of technology. We are not against it, but we think that we must be treated fairly so that we can send our kids to college, too.

SCMS is not the answer to the problem of digital taping, but there are other equitable solutions available. Thirteen nations have responded to analog taping by establishing a system of royalties on taping devices. These payments to music creators and rights owners are not taxes or levies. They represent compensation for the use of our works. Songwriter and publisher groups throughout Europe have pressed the European Community to establish a DAT royalty, linked with a proposal to require SCMS. An EC directive requiring member states to establish a royalty system, as well as a nonbinding recommendation on SCMS may be proposed soon.

The Copyright Coalition's position is the same as that of songwriters, publishers and record companies throughout Europe and in Japan. Among songwriter and rights owner groups worldwide, only RIAA remains willing to see an SCMS law on the books now without a copyright-based compensation measure to go with it.

Sony has announced that it will ship SCMS-equipped DAT units to the U.S. this month. Foreign manufacturers do not need legislation to do so, and they know it. They only want S. 2358 because they think it will help them head off a possible lawsuit. Congress should not help them at the expense of the American creative community. We hope that you will reject S. 2358 and not let the songwriters go down the drain.

Thank you very much for your attention.

[The statement follows:]

Statement of
GEORGE DAVID WEISS
President
The Songwriters Guild of America
on behalf of
THE © COPYRIGHT COALITION

Before the
Subcommittee on Communications
Committee on Commerce, Science
and Transportation
United States Senate

June 13, 1990

Mr. Chairman and members of the Subcommittee, my name is George David Weiss. I am the president of The Songwriters Guild of America ("SGA"), a national organization that represents nearly 5000 of the world's greatest songwriters, as well as the estates of SGA's deceased members. I am pleased to have this opportunity to testify today in response to S. 2358, the Digital Audio Tape Recorder Act of 1990.

Songwriting and DAT

My position as president of SGA is a non-salaried one. I earn my living writing songs. Or, more accurately, I earn my living from the songs I write. You see, the songs I create are my property -- intangible "intellectual property" -- protected by copyright. You may be familiar with some of my music. I wrote "The Lion Sleeps Tonight," "Wheel of Fortune," "Cross Over the Bridge," "What a Wonderful World," "Too Close for Comfort," "Mr. Wonderful," Lullaby of Birdland," "Can't Help Falling in Love" and others.

The thought that digital audio tape ("DAT") recorders may soon enter the U.S. market without adequate protection for the creative community scares me. I know that tapers will be able to make and use master-quality copies of my music without paying for them. S. 2358 and its plan to "fix" the DAT problem with loose limits on serial copying won't help me. My songs -- and my livelihood -- will still be vulnerable.

The threat of economic harm posed by DAT takes me back to my early days as a songwriter, when I didn't know whether I would be able to make it in the career I'd chosen. It makes me worry, too, about the many SGA members just getting their start and how they will get by if Congress enacts this music give-away.

I started writing songs in the 1940s. At first, my father helped me get by -- on a very modest scale -- while I found out whether I truly had the talent and the fortitude to make writing music my career. For years, I studied and I wrote songs, but none were successful. Then, in the late 1940s, I wrote a song with an established writer named Bennie Benjamin.

We took it to a music publisher who gave us an advance -- $100, maybe $150 -- which came as a happy shock. Through the publisher's hard work, our song was performed live, on radio, in restaurants and in night clubs. It started to catch on. Eventually, our publisher succeeded in getting two recordings released.

That song, "Oh What It Seemed to Be," climbed the charts -- all the way to #1! It was unbelievable. Like one of those stories about an unknown artist who becomes an overnight success.

The popularity of "Oh What It Seemed to Be" -- the very knowledge that the public enjoyed my work (and, I hoped, wanted to hear more of it) -- fed my desire to write more songs. But make no mistake about it: it was the royalties I received from the sale of those records and the performance of the song that fed me while I continued to write music.

What does all of this have to do with DAT and the SCMS bill? Well, the fact is that all songwriters depend on royalties to provide for themselves and their families. Our royalty checks are our pay checks. Plain and simple.

We are able to earn our royalties -- our income -- because the Copyright Act protects us against unauthorized uses of our works. No matter what S. 2358 says about not affecting our copyrights, the fact is that it draws an arbitrary line between kinds of unauthorized uses. It says copying from copies is bad, but that making any number of copies from a prerecorded CD or DAT is okay. It forces songwriters to give away copies of our music without payment of any kind.

DAT is a new product, but it is only the first of many digital audio recording technologies. The action Congress takes in response to DAT will set a legislative precedent for dealing with these new technologies. And it will send consumers a signal about what they can do when they buy and use them.

That is why SGA and the other members of the © Copyright Coalition believe it would be a mistake for Congress to move ahead with SCMS alone. Because of the economic loss that is sure to result from increased copying with digital devices, we believe a way must be found to compensate creators and rights owners for this new way of obtaining our music.

The Roper Organization Report

It's clear that tapers will tape more with DAT than they do with regular cassette recorders. This fact was challenged by the Home Recording Rights Coalition ("HRRC") in testimony before this Subcommittee in May 1987. At that time, the HRRC told members, "DAT recorders will not be used differently from other recorders; they will principally be used for playback and for some home taping." Well, we now have data to show that the HRRC was -- and is -- dead wrong.

I am going to take a few minutes to talk to you about the results of a survey on home taping and projected uses of DAT commissioned by the National Music Publishers' Association, Inc. ("NMPA"), another of the founding members of our Copyright Coalition.[1]

This survey, conducted by The Roper Organization, a nationally recognized survey research firm, has confirmed our greatest fear about DAT: that 100% of those interested in owning and using DAT equipment for taping will use it to tape prerecorded music.

A complete copy of the Roper report has been submitted for the record of this hearing, but because its findings shed a great deal of light on the significance of DAT technology -- to all of us who depend on music royalties for our livelihood -- I will repeat some of them here.

Lots of people are already interested in owning DAT recorders, and they want to use DAT to tape.

- After hearing a description of the CD-quality sound and recording capabilities of DAT, more than four in ten people (putting aside cost considerations) expressed some interest in owning a DAT recorder. Among those who currently tape music, the number was nearly two-thirds (64%).

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[1] The survey was conducted by The Roper Organization Inc. between April 17 and May 2, 1990, and is based upon telephone interviews with a representative national sample of 1504 persons age 14 and older and living in the continental United States.

- Asked to assume that the initial price of blank DAT tapes would be about double the price of high-quality blank analog cassettes, more than half (52%) of the people who said they might be interested in owning a DAT said they would use the equipment to make tapes.

In fact, everyone who wants to use a DAT recorder for taping plans to use it to tape prerecorded music.

- One-hundred percent of those interested in using DAT equipment for taping will use it to tape prerecorded music. This is in sharp contrast to current taping practices, where one-fifth of tapers reported that they use their equipment only for non-infringing purposes.

The superior sound quality of DAT will encourage people to make digital clones from CDs.

- The Roper Organization found that the number of current tapers who would tape from a CD they purchase increases dramatically with the availability of DAT. Thirty-seven percent said that they now copy from purchased CDs, while 64% said they would probably copy the CDs they buy if they had a DAT.

One of our worst fears about DAT -- that CDs will be passed around and copied -- has been confirmed by tapers themselves.

- Current tapers showed increased interest in taping from all borrowed sources, but particularly from borrowed CDs. Thirty percent of current tapers said they now copy from borrowed CDs; two-thirds said they would borrow a CD to copy on DAT.

Current tapers will tape more with DAT.

- One-third of current music tapers say that -- if they had a DAT recorder available -- they would make more tapes of prerecorded music than they do now.

And DAT will lure current non-tapers into the practice of copying music.

- Among people who do not now tape music, but said that they would be interested in owning a DAT recorder, more than half (52%) said they would use DAT to make tapes of prerecorded music.

It is plain to us that the availability of DAT marks the beginning of a surge in unauthorized audio taping. The Roper Organization report shows that the improved quality of digital copies will encourage current tapers to tape even more and will draw individuals who do not now tape into the practice.

The Roper survey also provides some important new information about home audio taping practices generally.

Audio recording equipment is available in the vast majority of American homes, and a significant portion of the population tapes.

- The Roper survey revealed that nearly three-fourths of the population own at least one piece of equipment that can be used to record on blank analog tapes; for the 14-17 age group, the figure is 92%.

- Thirty-seven percent of the general population sample acknowledged that they taped prerecorded music in the past year. Among tapers, about eight in ten do some music taping, and about half only tape to copy prerecorded music. (As noted, only one-fifth tape solely for non-infringing purposes.)

- The average number of tapes of complete albums or CDs made by each prerecorded music taper in the past year is 11.5. The average number of tapes of selections or singles made by prerecorded music tapers in the past year is 11.0. Projecting these numbers to the total population, the total number of unauthorized music tapes made in the past year is approximately 1.1 billion.

Taping is not done only for "personal use."

- While more tapes are made to be kept by the taper than to be given to someone else, the majority of prerecorded music tapers (57%) report that they exchange tapes with others, informally or through a club of some kind.

A significant number of homemade tapes displace sales of prerecorded music.

- Only one-third of music tapers said that if they had not been able to tape, they would not have purchased the recordings instead. Two-thirds say that they would have made at least some additional purchases of the music they taped -- on average, about seven additional purchases per music taper. This projects to about 322.5 million potential sales displaced each year (unspecified as to albums or singles).

Homemade tapes are treated as substitutes for prerecorded music by tapers themselves.

- A majority of people (54%) listen to the tapes that have been made -- either by themselves or by someone else -- about the same amount or more than they listen to purchased recordings.
- And prerecorded music tapers tend to keep the tapes they make as part of their permanent collection. Ninety-five percent of tapers kept at least one tape they made, while six in ten said they plan to keep all their homemade tapes. On average, more than 80% of homemade tapes become part of the taper's permanent music library.

Mr. Chairman and members of the Subcommittee, you simply can't believe, hearing these figures, that home taping doesn't harm those of us who create music and that DAT won't make things worse, much worse. And I hope you won't believe that S. 2358 and its SCMS "protection" would help us. Even if SCMS worked as advertised, we will show that it is inadequate, ineffective, and easily circumvented.

The time for Congress to devise a comprehensive solution to the issues raised by emerging technologies and to address the interests of tapers, electronics companies, music creators and rights owners is now -- before these products are widely available in the U.S. market. Establishing an inadequate and piecemeal solution -- and then changing the rules mid-game -- serves none of the affected interests, and wastes valuable Congressional resources.

Members of SGA and the © Copyright Coalition can't afford to gamble with our copyrights. We oppose moving ahead with S. 2358 alone because we know that we may not get a second chance to address DAT. If the electronics industry is successful in having its no-fix SCMS system implemented, it is sure to be back to lobby against the music community's efforts to recover adequate protection. In fact, the HRRC -- which is funded largely by contributions from the EIA and subsidiaries of Japanese electronics companies -- has already vowed to oppose our efforts.

In enacting the 1976 Copyright Act -- which has been properly called the "Authors Bill of Rights" -- Congress filled in many gaps in the law and ensured strong protection for America's creative talents. But Congress in

1976 could not have envisioned the leaps in technology that have brought us here today.

Other Nations and Unauthorized Taping

Analog Copying Protection

Like the many questions answered by the 1976 Copyright Act, the issues raised by home taping can be resolved -- and resolved fairly.

Other countries have already found a solution. Thirteen nations have responded to analog taping by establishing a system of royalties on taping devices. These payments to music creators and rights owners are not taxes as the HRRC claims. They represent compensation to the creators and owners of intellectual property for uses made of our works.

Private copying royalties typically are shared among songwriters, performers, and music and sound recording rights owners.[2] Often, a portion of the total amount collected is allocated to a cultural fund that is used to promote the arts and stimulate the creation of new works.

Seven countries (Australia, Austria, Finland, France, Hungary, Sweden and Turkey) base royalty collections on sales of blank analog tape. Six others (West Germany,

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[2] Only two nations, Sweden and Norway, have compensation systems under which the state retains a portion of the private copying fees collected; however, even in these countries, rights owners and creators directly benefit from the revenues generated.

Iceland, Portugal, Spain, Norway and Zaire) have laws that base collections on both blank tape and recording hardware sales.

I think you should know that, right now, in every case but one, American songwriters and rights owners are eligible to benefit from these foreign royalty payments. But this might not always be the case.

One nation -- Australia -- has decided that only rights owners from countries that also have private copying royalty systems in place will be able to share in its copying royalty distributions. That means U.S. songwriters and publishers, whose music is among the most popular and the most frequently taped, will receive no benefit under Australia's law. It also means that royalties that would otherwise go to American songwriters will be shared among foreign writers that qualify by virtue of their national laws.

European Community -- The Prospect of Compensation

Most of the laws establishing analog taping royalties were in place before DAT and the Athens Agreement. So its interesting to see what's happened since.

The parties to the Athens deal agreed that they would seek measures to implement SCMS in the U.S., Japan and the European Community ("EC"). Because the EC Commission, in its 1988 "Green Paper" on copyright and technology, favored a technology-only solution to DAT, the music community -- on both sides of the Atlantic -- was concerned that the Commission might endorse SCMS without, at the same time, proposing a system of compensation for rights owners and creators.

In September 1989, songwriter and music publisher groups throughout Europe, with the support of IFPI (the international recording industry federation that also signed the Athens Agreement) urged the Commission to link a DAT royalty with a proposal to require SCMS. That position has recently been solidified: six key organizations[1] have joined together to press the Commission for a proposal calling for a royalty for both analog and digital recording. As to DAT recorders, the groups have asked that the compensation measure be backed up by SCMS.

The EC Commission may be preparing to respond to the music community initiative. According to recent communications with industry sources in Europe, the Commission is expected to propose -- perhaps as soon as mid-July -- a directive that would require all Member States to establish a system of remuneration for private audio taping. To become binding, the Commission proposal would need manufacturers of DAT hardware have agreed not to oppose them. We are also painfully aware that there is no sign of retreat by the anti-music lobby in the U.S.

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[1] The allied organizations include the International Federation of Phonogram and Videogram Producers ("IFPI"); the European Mechanical Rights Bureau ("BIEM"); the International Confederation of Authors' Societies ("CISAC"); the International Federation of Musicians ("FIM"); the International Federation of Actors ("FIA"); and the International Federation of Popular Music Publishers ("IFPMP").

Right now, people like me who write American music stand to receive treatment inferior to that of our European counterparts. Not because European songwriters suffer more as a result of home taping than we do. And not even because we face organized opposition from American manufacturers of DAT hardware -- there are none. We face the prospect of inferior treatment in our own country because Japanese manufacturers of DAT hardware have said a loud "NO" to all but the inadequate and ineffective "protection" of SCMS.

Japan -- The Real Hard Liners

Recent developments have made clear that Japan's electronics giants are the real hard liners, determined to get their way with SCMS. They have convinced their Ministry of International Trade and Industry ("MITI") to direct manufacturers to start manufacturing and marketing SCMS-equipped DAT recorders. At the recent Consumer Electronics Show in Chicago, Sony proudly announced that it will ship SCMS units to the U.S. later this month.

At least one press report has said that the MITI move was an attempt to push the U.S. Congress to approve SCMS. Well, American songwriters urge you to push back. The action of Japan's government and its manufacturers shows that they know they can ship their music cloning machines to approval by a weighted majority vote of the Member States. (Four of the twelve EC countries, including two of the largest -- West Germany and France -- have already approved taping royalty systems.)

The Commission may also issue a non-binding recommendation encouraging the Member States and private companies to begin to implement SCMS for DAT. While compliance of major manufacturers is expected, the recommendation would not have binding legal effect.

Since the start of the debate over SCMS and the pending DAT bills, it has really bothered me, and just about everybody in our Coalition, that we have been labeled uncompromising "hard liners." The backers of S. 2358 have tried to make our pleas for a comprehensive approach to digital taping seem unreasonable -- or at least unattainable.

In fact, the position of American songwriters and publishers is the very same position held by the songwriters, publishers and record companies throughout Europe -- and even in Japan. Among songwriter and rights owner groups worldwide, only the RIAA remains willing to see an SCMS law on the books without a copyright-based compensation measure to go with it.

Members of the © Copyright Coalition recognize that the prospects for a successful move toward royalties in Europe have been greatly enhanced because the European the U.S. without the SCMS bill. But they want the bill because they think it will help them head off a lawsuit. Please don't help them. Don't let these foreign companies believe that the rights of American songwriters and music publishers can be bargained away for their profit.

Conclusion

A songwriter has the best and the worst of all possible worlds. He has a unique talent: to immortalize, in three minutes, the essence of some eternal truth. A recording of your creation can -- for a lifetime -- recall to mind an event with which the public identifies, each time "their" song is played. That is the best of songwriting.

But on the darker side is the dependence of the songwriter on others to exploit his creation, failing which, the song remains forever an unfulfilled dream. The songwriter looks to his publisher, the recording artists, the sound engineer, the distributor and the disc jockey to get his words and music to the public, ever eager to absorb more music and make it part of their lives. A songwriter has his talent, but his success depends on his rights under the law and his association with other talents in this most creative of businesses.

But Senators, all this founders but for you. The Constitution gives you the responsibility to promote knowledge and the arts by granting creators exclusive rights in their works for a fixed period of time. We understand that this job is never truly finished. Advances in technology make new uses of works possible. And new uses can require that the law be clarified or amended to ensure that the protections put in place by Congress are not eroded.

DAT and future digital audio recording technologies threaten the very basis of music copyright protection, and they demand a legislative response. But, to be effective, that response must be grounded in copyright law and policy. A bill to put arbitrary technical limits on copying from copies will not help the creative community. And, by giving the appearance that something has been done about DAT, we think it will hurt us.

Please, Senators, remember the songs you love, and remember the songwriters. Reject S. 2358.

Again, I thank you for the time and attention you, Mr. Chairman, and your colleagues have devoted to this important issue.

Senator INOUYE. Thank you, Mr. Weiss.
Ambassador Smith.

STATEMENT OF MICHAEL SMITH, PRESIDENT, SJS ADVANCED STRATEGIES

Mr. SMITH. Thank you, Mr. Chairman, for inviting me to testify today on S. 2358. I am pleased to meet with you to give you my views on this proposed legislation.

Mr. Chairman, during my service as Deputy United States Trade Representative, I took a particular interest in all matters of intellectual property. As the then senior career trade official of the Federal Government, I played a leading role in placing intellectual property on the GATT Uruguay Round agenda, and I initiated and chaired all the interagency meetings at the subcabinet level on intellectual property matters. I traveled around the world from 1982 to 1986 to persuade my foreign government trade colleagues to support both bilateral and multilateral trade initiatives concerning intellectual property protection.

A good part of my interest and concern for intellectual property was driven by the sheer hard facts of international economics. It was clear by the early 1980s that an increasing portion of the American trade balance would depend upon goods and services involving intellectual property, be they computer software, semiconductor chips, data bases, movies and sound recordings or what have you. This simply reflected the realities of the domestic American economy, wherein by 1988 according to the International Intellectual Property Alliance 5.7 percent of the U.S. gross national product was generated by industries within what is typically regarded as intellectual property sphere.

Hence, it was in the national interest of the United States that its government take as vigorous and aggressive a stance on intellectual property as possible not just to defend the domestic artistic community, not just to preserve the incomes of Stevie Wonder or Henry Mancini or Aaron Copland but, rather, to defend a critical portion of America's export economy.

I take some pride in our efforts in pursuing America's intellectual property, or IP, objectives around the world, whether it was negotiating IP protection in Korea, Indonesia or Taiwan or persuading my fellow ambassadors to the GATT in Geneva that IP was an issue that had to be addressed in trade terms. I think it is fair to say that we accomplished a lot in bringing the intellectual property issue to the international forefront, but we have just begun.

The Uruguay Round negotiations on IP, the so-called TRIPs talks, are crucial to the United States. Failure in those talks to obtain a meaningful discipline in the intellectual property arena will mortgage a good part of our international economic future.

Mr. Chairman, it is an international fact of life that at least in trade terms the world follows the American lead. If our house is not in order the rest of the world will not put its house in order. It is a truism to say that the United States cannot obtain international approval of proposals it puts forward unless the United States itself has the equivalent provisions in its own domestic practices, legislation, or procedures.

It was this fact of international negotiating life that inter alia, spurred the United States copyright industries to support U.S. adherence to the Berne Convention. Foreign countries simply told us that unless and until we joined that convention there was no point in talking about intellectual property in the GATT. They were right, as was the Congress in ratifying our adherence in 1988.

This brings me then to the legislation before you today, sir, S. 2358. I was among the first executive branch officials involved in the DAT controversy. Back three or four years ago, perhaps longer, representatives from the music, motion picture, computer software, book, internal publishing and similar industries came to me when I was Deputy USTR, pointing out the dangers of the DAT to their legitimate copyright interests. At that time attempts were being made by a variety of high tech firms to design devices to protect against illegitimate recordings, but I believe that technology to this day is still somewhat wanting.

The industry representatives were, of course, concerned about foreigners illicitly using the DAT technology to export counterfeit recordings to the United States. Mr. Chairman, even at that time I expressed to the industry that the issue was not the threat of our market being "flooded" by counterfeit copies. Put enough resources at the border, and that can be largely stopped.

Rather, the issue was payment of appropriate compensation—call it royalties if you wish—to the creators of pieces of work being copied without authorization. I made the argument, then and I make it now, that the incentive for American creativity and innovation will be permanently dashed if the creators and innovators cannot expect a reasonable compensation for the genius of their brainpower. This was the key Uruguay Round intellectual property issue, and this is a compelling reason why S. 2358 should not be passed.

If you accept my argument that increasingly our trade position will depend upon the high tech industries and the industries which derive their existence from intellectual property, then the Congress should not be considering legislation which will mortgage that position. That is what S. 2358 does.

Go back, if you will, Mr. Chairman, to my point that the world follows the U.S. lead in trade negotiations. If the United States is proposing, as it is in Geneva, that foreign countries accord to our copyright holders the same benefits as they accord their own rights holders, then we cannot be in a position of not doing the same here.

Thirteen nations involved in the Uruguay Round IP negotiations have already established systems of compensation for rights owners in respect to private audiotaping. They can—and doubtless will—insist that the United States do the same if American rights holders are to get any royalties for their works in those countries.

Yet, S. 2358 does not address at all the question of compensation. It merely sets limits—and very generous ones at that—regarding copies that may be made from a digital master. Why should foreign countries give the American creators compensation benefits when in effect, should S. 2358 become law, we will not do the same for foreign creators?

Already Australia has adopted a reciprocity provision in its IP laws denying royalties on blank tapes for countries which do not accord the same privileges in return. Others will follow—of that I am sure.

Mr. Chairman, I am not here today to testify against DAT. I am here to testify in favor of innovators being justly compensated for the fruits of their creation and, therefore, am directly in favor of enhancing our trade position. S. 2358 would, in my view, contradict those objectives.

Mr. Chairman, DAT technology is here to stay. We should welcome this innovation. Although it is a sad commentary on American industrial initiative that no U.S. company to my knowledge is planning to market equipment incorporating DAT technology, the impact of that unfortunate situation on our Nation's trade balance is scary enough.

We cannot be Luddites and bury our heads in the sand to new technologies, but we must equally be aware that technology innovation almost invariably raises complications. This is certainly true with the DAT issue and its relationship to the time-honored American tradition and necessity of rewarding innovation and creativity.

As a country, since Thomas Jefferson issued the first patent exactly 200 years ago, we have fostered the notion not only of the freedom to create and innovate but also the right to receive just compensation for such creativity and innovation. This potential for compensation is not just a private matter. This is not just a casual home copying issue. It is, in addition, a matter crucial to the Nation's international economic well-being.

We depend enormously on foreign payments of rents and royalties to us in our Nation's accounts. Part of those receipts are generated by the Nation's innovators, artists, entertainers, film producers, et cetera. Indeed, The Harry Fox Agency, the largest U.S. collecting agency for record royalties, estimates that no less than 40 percent of distribution under foreign countries private copying royalty systems will go to U.S. rights owners and music creators.

We are therefore talking about at least tens of millions of dollars of overseas earnings generated for our trade account.

In stark terms, Mr. Chairman, the sum of American experience and our efforts to obtain better protection for U.S. industries and citizens dependent upon copyright has shown that U.S. law must be a model that we could and should hold up for other nations to follow.

A recent illustration should make this point come home, perhaps in rather amazing terms. For two and a half years, the United States has been trying to persuade the Japanese Government to extend the term of protection for sound recordings from 20 to 50 years, closer to the full copyright term of protection that our law provides. In prior talks the Japanese had agreed to a 30-year term, but would go no further. Then, in an unexpected move, Japan's Foreign Minister, Nakayama. assured Ambassador Hills that the Japanese Government would seek Diet approval to meet U.S. demands.

According to press reports, the turnaround came shortly after Sony's chairman, Akio Morita, on behalf of Sony's U.S. subsidiary, CBS Records, asked Mrs. Hills to intensify her efforts because Morita complained the inadequate Japanese protection given U.S. recordings was causing CBS Records to lose a significant share of its rightful revenues from the Japanese market.

When the Japanese Diet approves the legislation, the results could lead to more than $1 billion annually for U.S. record companies, although the move would generate no new revenues for music rights owners and creators.

The moral of this little tale is clear. In trade terms, the world does indeed follow the United States in many, many ways. Hence, we as a country cannot expect to move in one direction in our domestic law and in another direction in the international arena. If we want our rights owners to receive compensation in foreign markets, we must be prepared to reciprocate.

S. 2358 runs directly counter to that principle. And on those grounds alone, to say nothing of other reasons, it should not be enacted. S. 2358 establishes a copying limiting technology as the U.S. standard for dealing with digital copying, at least regarding music and sound recordings. As I have intimated, S. 2358 presents a flawed concept, because it fails to address the compensation question, and it fails to take into account the negative reactions of our foreign trading partners.

We can all acknowledge that DAT taping presents difficult problems between the legitimate expectations of the innovators and those of the user. But the solution is not to allow the user to make an unlimited number of copies from a copyrighted master at the expense of the rights holder.

It is, for example, more than theoretically possible, as has been shown this morning, should S. 2358 be enacted, for a taper to take one DAT master and run off at home 10 copies of popular modern songs for gifts at not more than a fraction of the purchase price of original recordings. No royalties other than that involved with the master would be paid to the song writers.

Who gains by this?

Well, perhaps the taper who can give presents at half price. But what about the composer? Under our concept of just compensation for creativity and innovation, is not that creator entitled to something?

S. 2358 not only does not address the crucial compensation issue, and it prejudices any further consideration of it. As the European Community's vice president, Martin Bangemann, has written, "the principle [of remuneration] must be recognized since home copying without remuneration is clearly prejudicial to the rights and interests of the various rights holders."

What is true in Europe is equally true here. We share this principle. And with the Community, we are trying in Geneva to devise a system to take this into account. S. 2358 prejudices this effort and prejudices the legitimate rights of our innovators. Therefore, as one who has been deeply involved in such trade negotiations and as one who views with considerable concern any inroads on legitimate intellectual property protection, I would urge this Committee not to report favorably on S. 2358.

Thank you, Mr. Chairman.

Senator **Inouye**. Thank you, Mr. Ambassador.

Mr. Wilson.

Mr. **Murphy**. Excuse me, Mr. Chairman. If it is all right, I would like to have Mr. Wayland Holyfield testify now, with your permission, sir.

Senator **Inouye**. All right.

Mr. Holyfield.

STATEMENT OF WAYLAND HOLYFIELD, AMI MUSIC PUBLISHING, INC.

Mr. **Holyfield**. Good morning, Mr. Chairman and members of the Subcommittee. I am Wayland Holyfield, and I am a songwriter from Nashville, Tennessee. I am also a member of ASCAP. And since February I have been a member of the ASCAP board of directors.

Song writing is my profession, and I am proud to be a part of a group of American creators that made it an art form. Creators like Irving Berlin, Duke Ellington, Stephen Foster, Smokey Robinson, Harlan Howard, Aaron Copland, Bob Dylan, and so many others, many of whom are here in this room today, are writers whose music has touched people not only in the United States, but all over the world.

But writing songs is, at best, a hit or miss process, with many more misses than hits. And it is hard. But we do it because we love it and because we have a dream that maybe some day other people will like what we do well enough to go out and buy recordings of our songs, that will result in royalty income for our efforts. So we look to our country's copyright law and organizations such as ASCAP to make sure we are compensated for the use of our songs, to keep the dream alive.

But, Mr. Chairman, today this Committee is considering legislation that I believe would dash the dreams of many American song writers. We are not against DAT. In fact, we welcome any technology that provides a new or improved vehicle for our work. We all know what DAT can do for us. What scares us is what DAT can do to us, because it can make a perfect copy of our songs. And there has been a little misconception, I am afraid, this morning.

When you talk about first generation, all that means is that the machine can make a perfect copy. It can make as many copies as it wants. It can make 1,000 copies. It is not the implication of just a single copy. It runs into a problem on the copy making a copy, but even that is an analog copy.

But enough of that. Let me tell you about my dream. I am a native of a small town in Arkansas. I do not come from a show business background. But I knew I wanted a music career. And let me tell you, there is no way to approach it halfway. You have got to burn your bridges. You have got to be prepared to take the whole risk.

So I quit my job in Arkansas and went to Nashville in a rented truck, just like a lot of colleagues that I know have done. And I struggled. I worked three or four years at different jobs while trying to get somewhere as a song writer. Finally, I got my first song recorded. I am not even going to tell you its name, because it is one you have never heard of, it did not get enough air play to sell enough copies to make enough money. But it was a start and it gave me the idea that maybe the dream could come true and maybe I could actually earn my living writing songs.

So I began to get a few recordings, and one day a friend of mine, Bob House and I wrote a little waltz that was selected for the Urban Cowboy soundtrack. It was called Could I Have This Dance, recorded by Anne Murray. Both the single and the album were major sellers that reached far beyond the country charts. There was performance income, and mechanical royalty income from record sales. This break gave me the financial and emotional lift that enabled me to want to go on and to stay with my love, the song writing career.

But, Mr. Chairman, I shudder to think what would have happened to me if after having had such a successful song, I had to tell my wife, my three children, and myself, that the income we had a right to was far less than expected because, instead of buying my records, people were using DAT machines to copy from a friend's original, and no one had provided for the song writer's protection.

You know I have heard Mr. Oman and Mr. Berman talk today about a step—this bill is a step. Well, I agree it is a step, but unfortunately, it is a step backward when it comes to the area of our copyright protection.

Let me explain how DAT would affect the earnings of song writers. About 40 to 45 percent of my income is from mechanical royalties, royalties that are earned on record, tape and CD sales. It used to be more a few years ago, but I am afraid cassette taping has taken a bit. But what is really scary is the size of the bite DAT machines could take, because their real attraction, in my opinion, is their ability to make perfect copies.

This bill before you today, if passed, tells people they do not have to buy music, they can copy it for free. And that is just not right.

You must remember that having hits and earning income from royalties is what keeps us going. We spend so much time living on hope that if we could not ultimately reap the fruits of our labor, there would be little point in pursuing our dreams.

Now my field is country music, and I am proud of it. As an ASCAP board member and as first vice president of the Nashville Song Writers Association International, I feel I speak for thousands of song writers. In fact, virtually every professional writer in Nashville, whom I know personally, and I know a few, oppose the DAT bill.

I also know that my song writing colleagues in pop, rock, rhythm and blues, jazz, theater, film, symphonic, gospel, and on and on, all agree with me on this one point, without our songs, the software and hardware that the record and electronics industries are selling would be worthless. Nobody wants to copy the sound of a blank tape.

There is something else that bothers me and my colleagues. Mr. Smith hit upon this, and I can put it in real personal terms. A few years ago I wrote a song called Some Broken Hearts Never Mend. It was the number one country hit in this country. But somehow it exploded in Europe and became a standard in West Germany and Austria, and some of the other European countries.

To this day I receive good income from these countries that include home taping royalties. Well, it just scares me to think that the German and the Austrian governments might do what Australia has already done, and that is to exclude the American song writers from a share in royalties from copying because we have no similar system in place here.

Besides being a personal hardship for me and other American writers, think what it would do to the positive contribution our music makes to the balance of trade everywhere in the world.

Now I have been fortunate in years of hanging on and holding on, and some good luck has brought me 40 top-10 hits, 13 number ones, and some nice honors. And I have been in a position to tell newcomers that this is a great business. It is tough, but if you have the talent and stick to it and do not mind the hard knocks, you will be rewarded. But can I, in good conscience, go on saying that to the new and up-and-coming writers?

I put that question to you, Mr. Chairman. And I appeal to all of you to champion the American song writer and help us shape an equitable solution, a good, comprehensive solution. As someone suggested, we have the opportunity now, let us take advantage of it.

Let us not be forced to keep coming back year after year to defend our rights.

Someone made the comment to me, it is a David and Goliath issue, and we are always the David. But let me point out to you that David won, and he was a song writer. So let us not forget that, Senator.

Mr. HOLYFIELD. The pace of technological advance has quickened since the first copyright and patent laws were enacted 200 years ago. The ways of delivering music have changed and expanded in ways that our forefathers never could have imagined. And that is good.

But one thing has not changed in the past 200 years, and that is where the music comes from. It still comes from the same source, the mind and the heart and soul of the flesh and blood song writer, who creates an image with words and music that touches people's lives in a way no machine ever can.

This bill sanctions the copying of our music and threatens a large part of our livelihood. The DAT bill has been presented here as a compromise, and it is, but unfortunately it compromises my rights as a song writer, and those of my colleagues across the country.

I urge you not to compromise the contributions of American music and the integrity of our copyright system.

Please oppose this legislation.

Thank you.

I would be glad to answer any questions.

Senator INOUYE. Thank you, Mr. Holyfield. Now, Mr. Wilson.

STATEMENT OF GEORGE WILSON, DIRECTOR OF SYSTEMS INTEGRATION, STANLEY ASSOCIATES

Mr. WILSON. Mr. Chairman and members of the Subcommittee, my name is George Wilson. I welcome this opportunity to testify here before you to discuss the technical aspects of the serial copy management system.

I graduated from the U.S. Naval Academy in 1979 with a degree in electrical engineering. I am currently Director of Systems Integration at Stanley Associates, a small systems engineering and software firm in Alexandria, Virginia.

Mr. Chairman, the SCMS design represents the bare minimum with regard to preventing unlimited serial copying of material and is extremely vulnerable to circumvention. The SCMS, designed to prevent DAT recorders from making second generation digital recordings, can be easily defeated at a cost of less than $50.

Stanley Associates was contracted to study the technical design of the SCMS. Specifically, we were asked to determine the vulnerability of the SCMS to circumvention. The scope of this study included a detailed analysis of the international standards describing the digital audio interface and the SCMS. The standards define the method for transferring data between audio components and describe how an SCMS-equipped DAT recorder could prevent unlimited serial digital copying of copyright protected material.

In the course of our analysis, we witnessed a demonstration of an SCMS-equipped DAT recorder at Sony offices in New Jersey. At the demonstration, we asked questions regarding Sony's implementation of the SCMS. Based on their responses, it appears that the Sony design follows the proposed standards with no proprietary enhancement to further copyright protection.

SCMS-equipped recorders are controlled by a digital code contained on the tape or compact disk being recorded. The code specified how the DAT recorder will respond with respect to digital copying. The code contains 192 bits of digital information. Although the DAT recorder reads the entire digital code, there is only one digital bit that identifies whether copyright protection is asserted. In other words, Mr. Chairman, copyright protection and the SCMS can be completely circumvented simply by controlling the value of a single digital bit.

When the copyright bit is equal to a digital "O," the DAT recorder assumes that the material is copyright protected. When the copyright bit is equal to a digital "1" the DAT recorder will assume that no copyright protection is claimed. Simply stated, our circuit captures and modifies the copyright protection bit before it is received by the DAT recorder. The circuit can be attached to the output of a DAT or CD player, or to the input of a DAT recorder. The circuit ensures that the copyright bit is always transmitted to the DAT recorder as a digital "1." Consequently, the DAT recorder will always assume that the material is not copyright protected and will always allow digital copying.

Furthermore, with the circuit connected, the DAT will generate a tape which contains no copyright protection. Further digital copying of that tape would be allowed without use of the circuit, and all copies of that tape could also be copied without the use of the circuit. Serial copying, or endless copies of copies, would be allowed.

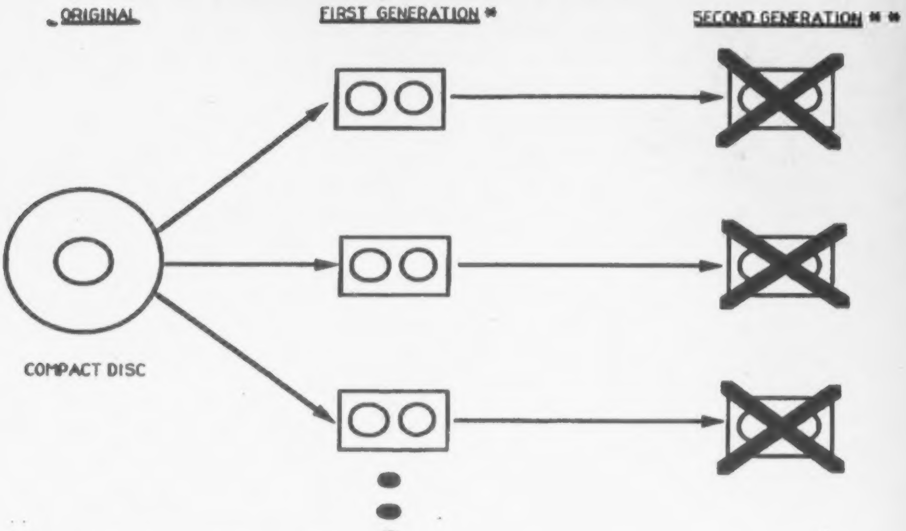
The circuit that I have just described is considered the simplest, although certainly not the only, method of circumventing the SCMS. The materials required to construct the circuit are readily available through local electronics distributors. The actual cost of materials used to construct the circuit was $44.15. The most expensive part was this metal box. The material needed to understand the digital audio interface is contained in readily available standards. The standards, along with the background of a typical undergraduate electrical engineering curricula, would provide the necessary information to design the circuit. In fact, it is entirely possible that an accomplished electronic hobbyist would be able to design a circuit to circumvent the SCMS. In any case, once designed, the circuit description could be copied and the circuit could be easily constructed by a hobbyist in his or her home. No special electronic equipment would be needed to construct or verify the circuit. There are no special adjustments needed on the circuit.

In conclusion, it is our technical opinion that the SCMS is extremely vulnerable to circumvention since the SCMS design relies on a single control bit to prevent unlimited serial copying. Its circumvention was relatively simple and inexpensive.

Mr. Chairman, thank you for the opportunity to testify.

[The attachment referred to follows:]

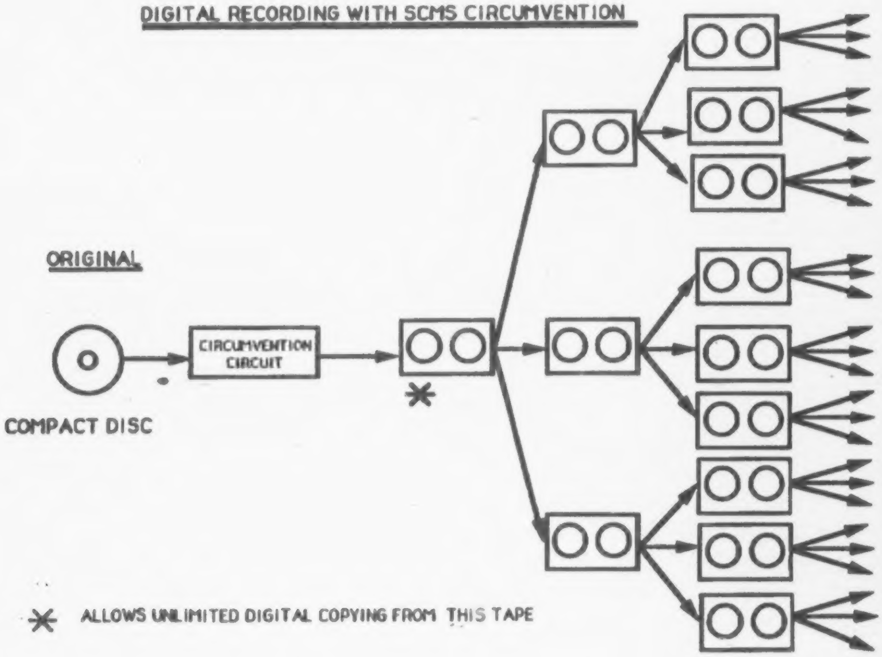
DIGITAL RECORDING WITH SCMS


ORIGINAL
FIRST GENERATION *
SECOND GENERATION * *
COMPACT DISC

* Unlimited digital copying of original is allowed

** Prevents digital copying of "digital copy"

DIGITAL RECORDING WITH SCMS CIRCUMVENTION


ORIGINAL
CIRCUMVENTION CIRCUIT
COMPACT DISC
*

* ALLOWS UNLIMITED DIGITAL COPYING FROM THIS TAPE

Senator **Inouye**. Thank you, Mr. Wilson. Senator Gore?

Senator **Gore**. Mr. Chairman, thank you for your courtesy in letting me ask the first questions. I will be brief, because as I informed the Chairman, I have another meeting that I have to attend, but I wanted very much to hear all the witnesses today. I missed a few on the last panel, but I have heard all the statements on this panel, and as I made clear on my first statements I am extremely interested in the outcome of this issue, and I especially enjoyed the statements here on this panel.

I have several friends on this panel. Indeed, I have friends on both sides of this issue, but I am especially glad to see Wayland Holyfield here and George David Weiss and Ed Murphy, and also Mr. Wilson and Michael Smith. I do not think we have met before, but I am delighted to have a chance to hear your statements.

Much has been made of the fact—and I will ask anyone who wishes to respond to this—much has been made of the fact that you were not a part of the official negotiations in Athens. A clarification was offered that you were invited as observers—I had understood that to be the case—but not included as part of the negotiations, and yet a further clarification was offered to the effect that those who did appear as observers were allowed to take part as if they were participants. Of course, you did not know that going in, but I wanted to give you a chance to comment on that if you wanted to.

Mr. **Murphy**. I would be glad to comment on that. The invitation was extended to us to attend as an "observer," and we questioned then, whether we could participate in the dialogue and the conclusions that might be reached. The first comment that we received was that we would be allowed to make a statement, possibly, there, but that we could not participate in the actual discussions that might lead to any conclusions.

I reiterate, I thought it was quite important—essential—that we be represented there, the songwriters and the publishers, because of the nature of the discussions. There had been prior meetings before that meeting in Athens to which we were not invited at all, as I mentioned before. There were at least three or four other meetings to which we were not invited.

Senator **Gore**. Why were the songwriters not invited?

Mr. **Weiss**. That is a mystery, Senator. We have been trying to learn that for a long time. We do not understand it.

Senator **Gore**. Well, you are a reasonable group, are you not?

Mr. **Weiss**. We think we are. We have always been, as a matter of fact. Jay Berman and the RIAA worked very closely with us before this. We do not understand. Perhaps it was pressure from the Japanese, who have historically been against royalties. Maybe they were frightened that if we were there we would start making a little change in that direction.

However, you say, we had no way of knowing when we were invited as observers that if we had been there perhaps we might have been able to say a little bit more than just sit there dumbly. We had no way of knowing that, and we felt that since it was our product, things that came from our gut and our hearts and our minds, that was being discussed, that we should certainly be there to talk about it. But we were not.

Senator **Gore**. You know, Mr. Chairman, the way I look at this issue, the equipment manufacturers are good at making hardware. Our creative community is good at making the software, if you want to use that term. This proposal would take a lot of the profits historically apportioned to the makers of the software and give them to the makers of the hardware instead, in the process violating a very important principle that we have always upheld. That is why I feel the issue is so clear-cut.

I think they have made extensive efforts to try to work this matter through, and I respect the efforts that have been made, but I respectfully disagree with the outcome.

Mr. Wilson, I do not know how to assess your statements that the technology could be bypassed relatively easily. I take it that is the thrust of what you are saying, that it could be circumvented with relative ease. Is that basically what you are saying?

Mr. **Wilson**. Yes, sir.

Senator **Gore**. Well, I think we ought to hold the record to give—not for me to suggest, but I would like to see a response from the other side on that point.

Senator **Inouye**. If the Senator would yield, I have instructed my staff to communicate with the Bureau of Standards to look into that matter.

Senator **Gore**. Excellent, because this is a serious matter added to other serious matters that have been discussed. Even if you are wrong, Mr. Wilson, as I understood Mr. Holyfield's statement—I believe you were the one who made it, Wayland—it would be perfectly possible to make 1,000 or 10,000 or 20,000 perfect copies as long as they were first generation?

Mr. **Holyfield**. That is right. That is what is really scary, because—and the thousandth copy would be just as good as the original. That frightens me.

Mr. **Murphy**. Excuse me, Senator. I would like to add, to make sure that it is clear in everyone's mind, that the second generation copy can be reproduced from digital to analog, and that analog quality of the second generation copy is very, very good. Obviously, it is not of digital quality, but it is extremely good, so that—and it has been interesting to see how this has been reported in the press and over the airwaves about second generation copies. Second generation copies can be made, but they are not of digital quality. They are of analog quality with SCMS.

Senator **Gore**. Well, I think you have had a very good hearing here today. The Chairman has given a very full airing of all of these issues. My experience in debating these matters over the years has been that whenever you have a chance to really let the facts be fully aired, your cause survives. That has been the experience, and I am grateful, Mr. Chairman, as I said earlier, for the fact that we have had a very extensive opportunity to get all of the facts out.

If I were in your position, the members of this panel, I would be very pleased with the way in which the proceeding has gone today, because I think your case has been made very, very well. No one knows what will happen from here, but you have done your best and I think that the record of this hearing will be extremely helpful to your point of view.

Thank you, Mr. Chairman.

Senator INOUYE. Thank you, Senator Gore. Senator Pressler?

Senator PRESSLER. Thank you very much, Mr. Chairman, and I apologize to the witnesses, because I have had to participate in four other hearings or events or floor activities this morning. That is the life of a Senator.

Let me say that I am learning about this issue, and in fact yesterday I had Steve Yarborough of Vermillion and Mark Del Porto, both songwriters or musicians, in my office, and I am beginning to learn about this issue.

One thing I would like to know, and maybe none of you have specific information on this, how are songwriters treated in certain other nations? For example, how does Japan deal with the same issue within their own country?

Mr. MURPHY. Senator, the question of remuneration for home taping has not been resolved in Japan. I received a communication just this week from a coalition that has been put together in Japan, which consists of the songwriters and publishers and, I might add, the recording industry in Japan is on the same side, as well as JASRAC, the performing rights organization, to plead to the Diet to make certain changes there, and making sure there would be some type of compensation. There is no remuneration set forth right now for home recording.

Any unauthorized copying in Japan and the implementation of SCMS is going to be protested by this organization in Japan, and they have asked for our assistance and whatever information we can provide so that they might make known to the Diet, and to MITI as well, their great concern about MITI's decision to let that product be shipped throughout the globe.

Senator PRESSLER. So they also are in the same position we are in. What about the Soviet Union?

Mr. MURPHY. Well, the Soviet Union raises a very interesting question. As you may know, the Soviet Union does not have very adequate protection in terms of copyright. Recently I was there—last October—and I was asked by the VAAP organization, which is the controlling organization there in copyright matters, if we would ask our government here to bring as much pressure as we could onto their government to enact a new copyright act which would include protection of copyright and against home taping. Right now, there is no marketplace, and being no marketplace, no payments.

They have realized in the Soviet Union, as we are trying to demonstrate here, that unless you pay the creators, there is no product. If you do not have a marketplace, you need protection first in order to create a marketplace, and so protection brings a marketplace and that brings new works to the consumer. They are asking our assistance and our help, and we have offered that and we have asked the Commerce Department and USTR to press the Soviet Union to please put something into effect, and they are trying.

Mr. WEISS. I wanted to add one word to his statement. Songwriters need incentive, not just a marketplace. We need incentive to go on following our dream for the pleasure of the world.

Senator **Pressler**. So in other words, the Soviet Union's system is an example where they have not had many songwriters lately; is that correct?

Mr. **Murphy**. That is absolutely correct.

Senator **Pressler**. What about Italy? How does Italy do it?

Mr. **Murphy**. Italy has announced within the last 30 days that their government is considering enacting a bill which will provide for remuneration for copyright holders. Yes, sir, that is in the works now. As reported, it looks very close and the prospects for enactment look very positive.

Senator **Pressler**. I think there is one intellectual question that we have to face very squarely here, and I would ask it of any member of the panel. I was not here when Kevin Kondo testified, if indeed he testified. I have his statement here in my hand. I was reading through it, and I think the two basic points he made boil down to two things. On page 7 of his testimony, which I will just read, is a very simple sentence on which I would like the reaction of anybody who wants to respond. How do you intellectually respond to this?

"That would mean that the music community would profit every time someone buys a blank tape to record a band playing its own songs."

What is your response to that?

Mr. **Weiss**. Read that again, please, sir.

Senator **Pressler**. Maybe I should read a bit more of it. He is going along, and he says, "Let me address one final point. Some members of the music community are trying to seize this opportunity to get a royalty tax on consumer blank tape and recording equipment. Don't let them mislead you. What their proposal means is that anyone buying blank tape or recording equipment for whatever purpose will be forced to pay an additional tax to songwriters and music publishers. That would mean that the music community would profit every time someone buys a blank tape to record a band playing its own songs."

Mr. **Murphy**. Yes, Senator, I would like to answer that. The Roper Organization survey that we asked to be conducted took a look at how much home copying is going on of material which is uncopyrighted, and this might fall in that category. A very small percentage of the people surveyed actually used the equipment, particularly regarding the DAT, to copy something other than prerecorded music.

We posed the question, to people who expressed interest in owning and using a DAT recorder, would you use it to make copies of prerecorded music, and 100 percent of people said here that they would indeed use DAT to make copies of prerecorded music. As to analog cassette recording, if I remember the statistics correctly, at least 80 percent of the people who tape make copies of prerecorded music.

So there is a small amount of copying that does not involve prerecorded music—and it is even less when you go to digital that copying because of expensive equipment and expensive tape. It is highly doubtful someone would spend $20 for a blank tape to go out and do something that could be done on a $2.00 analog tape, so we do not believe it will be a very significant portion.

Senator Pressler. His second point is that would mean that the music community would get a double royalty and greater profits every time someone buys a blank tape to record an album or a CD that they had already purchased so that they could play it in their car or portable tape player.

Mr. Murphy. My God, it is just obvious. Here I would agree wholeheartedly with Jay Berman. The losses to the recording industry and to all the participants here are tremendous. Each study, the OTA study as well as the Roper study, concludes without a doubt that at least one third of our revenues are lost, so to say that there is a "double dip" here is absolutely absurd.

We are losing a tremendous amount of money. One says that because you are already surviving and losing, you are not entitled to a few cents more on this home taping problem. We are losing billions and billions of dollars. It has been substantiated. There is no question about that.

Senator Pressler. Does anybody else have any comment on any of these questions here?

Mr. Weiss. Only one comment, that we songwriters feel it is so unfair when the word "taxes" is used. We feel this is a royalty; it is compensation for the fact that we have given of ourselves to create something for our country and the world. I certainly want to assure you that Jay Berman and Hillary Rosen and all the RIAA feel the same way. We are all entitled to royalties for our efforts.

Senator Pressler. This has probably already been covered this morning. I have not been here, and maybe I can read it. How much would this cost, and how much extra would it cost with the royalties included?

Mr. Murphy. Sir, it has not been established on our part what type of royalty payments we might seek. We were asking for an opportunity to sit down and discuss just what kind of compensation package we could support.

Senator Pressler. This costs $20 now?

Mr. Murphy. Yes.

Senator Pressler. About how much would it cost? Maybe five or ten cents extra?

Mr. Murphy. I have no idea, sir.

Senator Pressler. A dollar?

Mr. Murphy. I have no idea. It would be less than that. I am sure it would be less than a dollar.

Senator Pressler. Less than a dollar for every one sold?

Mr. Murphy. I would think so.

Senator Pressler. This dollar would go into the fund?

Mr. Murphy. There are many ways and systems that have been put together in Europe, and we would look at the European models, particularly in France and Germany, on how they have enacted these systems of compensation. That would be one way. There are many ways. We are quite willing to sit down and look at every avenue.

Senator Pressler. Somebody must have a formula or there must be some numbers somewhere. Maybe you could submit that for the record.

Mr. Murphy. Yes, sir. We have them, and we will submit for the record what has been done in the EC countries and which countries already have home remuneration policies in place. We will make sure that that is presented to you.

Senator **Pressler**. We hold these listening meetings in my state, and I always tell people what I am doing. I can say that there will probably be between 50 cents and a dollar on each of these additional——

Mr. **Murphy**. Sir, I would not like at this time to fix the industry into a decision that is as important as you raise without consultation of all the parties. I am here to speak primarily for the writers and publishers, (C) under the copyright law, distinguishing it from the performers. The performers have an interest in this as well, of course, and so does the recording industry. They can argue their own case.

Mr. **Weiss**. That is exactly what we have been doing. We are hoping to sit down with all parties with the RIAA, with Philips, with the Japanese and work something out that all decent human beings can agree upon and with which we will be happy.

Mr. **Murphy**. And not to make it burdensome way for the consumer. I might add, Senator, that if Sony licenses their product they receive a royalty. They do not call that a tax. They call that a license fee or a royalty. There are many people that license their products. Our product is also being used on a royalty basis, and to call it a tax, I think, is totally unfair. Other people do not call it a tax in their industry. They choose to do it here to scare the consumer, obviously, by saying a that burden will be placed directly on them. There is no guarantee that it will be placed on the consumer. Maybe it can be absorbed by the manufactures.

Senator **Pressler**. Well, my powder on this bill is dry, let me emphasize, and I am learning as I go. I think it is good, Mr. Chairman. Maybe we could have the staff or somebody look into the royalty issue. At some point we have to figure out what we are really talking about here, what range. I think that would be very useful to me. I do not know who can come up with those numbers, but what is it that we are really talking about here in terms of added cost. Of course, it cannot be exact but there must be a percentage or 50 cents or a dollar for each one. Some expert must have some idea, or have I missed it? Maybe we have had that testimony.

Senator **Inouye**. We will try to get that information.

Senator **Pressler**. Good. Thank you, Mr. Chairman.

Senator **Inouye**. Thank you.

Mr. Murhpy, you are opposed to S. 2358. Would you be in favor of it if provisions incorporating the so-called debit system are made part of the bill?

Mr. **Murphy**. Yes, sir. I think if one could demonstrate that the debit card system is practical and workable, as Mr. Oman said before in his testimony, it is probably one of the most desirable situations, where you could make sure that proper collection and distribution was made for the unauthorized duplication of the creator's product.

I might add, though, the difficulties that we have been led to believe are raised by the debit system, according to the various manufacturers. Particularly, Sony has made statements to the Europeans and the EC that have indicated that a debit system is not a reality close at hand. So I must tell, you for the record, that I do not believe debit system technology is close at hand from what they have told us, but this is a question that should be fairly put to the hardware manufacturers. It is one of which we would certainly approve. We would be willing to consider anything that works for the creators, any systems.

Mr. **Weiss**. But we would want to be careful that the suggestion you made, which I think is probably a good one, be an integral part of the bill, not an amendment which could just as easily be kicked off by the time it comes up for a vote.

Senator **Inouye**. Well, any amendment or, for that matter this bill, can be kicked off.

Am I also correct to assume that if this measure becomes law and that equipment begins to arrive in the United States, Mr. Murphy, you will bring suit?

Mr. **Murphy**. Yes, sir. We have drafted a complaint, and we are looking at a number of options, as I mentioned earlier. We have sent a letter to Secretary Mosbacher as well as to Ambassador Hills, and are taking a look at the various trade laws to see how they may be utilized to defend what we believe to be a serious abuse of our rights.

Senator **Inouye**. The question can be asked why you did not bring suit on the analogs.

Mr. **Murphy**. Mr. Weiss mentioned before about what happened to the printing business. I used to operate one of the largest printing companies in the United States for the production of sheet music. When I started in that business there was a tremendous amount of business that one could do, until the photo copying machine came along. When that copying machine came along, gradually sales dropped. People said do not worry about it because the copies were bad, they were poor.

You know, that business has closed down today. The company I operated does not exist. I might add the creators' product—sheet music—that used to be manufactured today is hardly there. It is not there because the quality made the difference. The copying machines made the difference in quality then, and today the quality is quite high on photo copies, and you can read a photo copy as well as you can printed matter.

So I think the argument may be made that while people who were involved in the industry years ago were sleeping at the switch and saying, oh, well, because of the poor quality at that time analog copies are not going to hurt us terribly. Digital technology, because it gives a perfect copy, because a digital signal can be delivered over the air waves, because it can be delivered to the home—by cable or satellite—and copied, in this case, we must defend our rights and we must do it now, not wait until the technology because entrenched.

Senator **Inouye**. How do you respond to the claim that notwithstanding the availability of home recording opportunities the Michael Jackson record, "Thriller" I believe it is, sold 33 million copies?

Mr. **Murphy**. I think that is wonderful, but I am quite sure that it might have been a lot more than 33 million had there been some prevention mechanisms here. I do not think anybody would deny Michael Jackson or any artist or performer what is due them because they are successful, because they make a profit. That is what the American system is all about.

I think what the American system should not be about is allowing other people to take our product, to take our rights away from us without compensation.

Mr. WEISS. Also, one of our basic premises in America is if you build a better mousetrap they are going to beat a path to your door to buy that mousetrap. I personally would hate to see a detour sign in the middle of that pathway saying turn here to get your free mousetrap. I feel that as long as they keep wanting your mousetrap, let them go buy it. As long as we keep writing songs maybe every two or three or four or five years that the public says they like and want, God bless us and God bless the public if they want to buy it, whether it is 100 or 50 million.

Number one, that is the American way. Number two, who knows when we are going to get another hit. I do not know. I know Wayland does not know. None of us know. We are victimized, really. I say that advisedly and not pejoratively. We are victimized by the public because they never know themselves whether they are going to take your next song.

Senator INOUYE. We have royalty remunerations requested by songwriters, performers, publishers, et cetera. How are you going to split this?

Mr. MURPHY. There are a number of systems that have already been devised, Senator, in Europe, and I think it would be appropriate for us to study those systems. They are not burdensome in terms of the cost of distribution. There are existing organizations in Europe that make those distributions. There are existing organizations here in the United States that can do it, so I think the overhead could be dealt with. I think one can make a system workable that would satisfy all those involved.

Senator INOUYE. Well, gentlemen, I appreciate your testimony. I can assure you that this subcommittee will give you a fair shake. As you must have noted by the questioning, it is pretty well divided here insofar as your issue is concerned. Your message has been heard very clearly.

As I indicated, the record will be kept open for another 30 days, so if you wish to make corrections, add supplemental evidence or testimony or addenda, please feel free to do so. If you have members of your organization who wish to put in their personal pitch, they are free to do so.

With that, I thank all of you. This matter will be discussed by the subcommittee, and hopefully we will make a decision.

[Whereupon, at 12:45 p.m. the hearing was adjourned.]

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

June 12, 1990

Honorable Dennis DeConcini
United States Senate
Washington, DC 20510

Dear Senator DeConcini:

Your letter of June 11, 1990, raised a number of issues concerning the attributes of a serial copy management system (SCMS) proposed for digital audio tape recorders. As you are aware, NIST conducted tests of an analog anticopying system. However, NIST has not conducted any tests on a digital system like the serial copy management system; thus these comments are based on a general knowledge of digital signal principles and not on detailed knowledge of SCMS.

There are obvious and significant differences between the performance of analog and digital anticopying systems. The most significant difference is probably the anticipated effect of the anticopying approach on sound quality. The analog anticopying system that NIST evaluated removed a small portion of the audio spectrum which, in principle, degraded sound quality. Tests showed that, for some material, some listeners could discern the degradation. By contrast, the SCMS uses status bits that are separate bits from those representing the sampled audio data, so, in principle, the system should not have a direct effect on sound quality. For the analog system, NIST was also asked to address questions of the reliability of the anticopying system and the ease with which it could be defeated. In principle, digital systems can be made reliable and can be difficult to defeat.

Because of the differences between analog and digital systems, it is unlikely that digital anticopying schemes such as the SCMS would require an extensive program of laboratory testing. Rather, we expect that an analysis of its documentation and code should provide a reasonable basis to determine the effectiveness of a system which properly implements the design. Definitive evaluation of a specific embodiment of the design would require limited testing.

Sincerely,

Robert E. Hebner, Acting Deputy Director
Center for Electronics
and Electrical Engineering

Michael C. Carroll
1556 Royal Green Circle, Q-103
Port St. Lucie, Fl 34952
Wednesday 11th, July 1990

Senate Commerce Science and Transportation Subcommittee,
227 Hart Office Building,
Washington DC, 20510

Dear Sirs,

Last Thursday (7-5-90), I viewed your discussion on "the DAT Act" on CSPAN. This discussion was recorded on 6/13/90. The technological implications of the Digital Audio Tape (DAT) recorder has been a major influence on my independent research over the past year. I am a former AT&T Bell Labs systems engineer (1982-1986), and veteran of the Navy, currently on disability retirement in Florida. This coresspondence addresses many concerns on both sides of the DAT issue. The proposed solution has many implications in the area of commerce, science and intellectual property.

The solution proposes the development of an *information industry.* This industry would address current issues such as cable / telephone, High Definition Television (HDTV), and the future of the press (newspapers) and postal services. Although started as a study of the DAT problems, the implications of my research, - the development of a new industry-, requires the assembling of resources from the computer, telecommunications, postal services, and publishing industries, into a novel information industry. The unfolding information industry would be greater than any of the individual industries that comprise it.

The advent of the DAT earmarked the completion of a technological triangle; computers, communications and mass storage[1]. In earlier times, the computer industry was based on centralized computing. In present times, the addition of communications to computers, **networking**, has expanded the computer market exponentially. With the advent of the DAT, a digitally recordable medium, the combination of computers, communications, and mass storage crudely completes the technological triangle for the information industry. Consider the implications to Postal Services.

If a DAT interface device is designed to record digital data from telephone lines, it would be capable of recording at least 240 to 480 times faster (44.1Khz x 16 bits per second vs 1200 to 2400 baud modem) than the data rates most commonly used by existing public computer networks. This DAT data rate is far in excess of the technology of existing (residential) telephone lines. It would require the user to lease a digital access line, for example T-1, which is priced proportionally higher than residential services. At those rates of recording, over 40 text pages may be recorded per second, 400 times faster than fax. In one leap, this DAT interface device capability has outstripped present telecommunications, computer networking, and the post office.

The DAT-like interface device would outstrip the performance of present personal computers and telecommunications. If these two industries were capable of providing cost effective supporting means (cheaper modems, cheaper telecommunications cost), the third industry, postal services, would undergo rapid transformation. The proposed telephone (cable)[2] access lines to (residential) customers would be capable of supporting such data rates, within one of the frequency bandwidths assigned to a tv channel. Since communications will require very short connection times, digital packet switching technology may be used to facilitate economical service. Subsequently, the DAT-like interface device could operate independent of a personal computer, and serve as an ***electronic mailbox***. Thus a week's worth of letters, magazines, junkmail, and "electronic newspapers" (including the Sunday Times), may all be recorded onto a single DAT tape; an astronomical savings potential in the use of paper and associated resources.

Since the performance of the DAT-like interface device is limited by present telecommunications and computers, the device may be designed to perform at such compromised data rates. From my limited experience, such a device may be designed with a level of complexity, less than that of the DAT recorder.

There is a need for high data rate (residential) service, such as packet switching. The present technology, and hence pricing of leased telephone data lines, restricts the development of the information industry. Yet, if the technology of packet switching and the proposed telco cable[2] access line technology are combined, an economical platform for an information industry would emerge.

Presently, personal computers (PCs) are designed with their own internal storage system, facilitating easy piracy of copyrighted recordings. The development of an external electronic mailbox, would diminish the relevance of the computer, since other non-computer devices, for example multi-media products (audio, video, text, and graphics devices), may also have access to the mailbox. Or, the mailbox may be a self-contained PC-like device.

Consequently, the unfolding information industry is potentially larger than any of its individual parts. This places its development at odds with the existing industries whose individual parts will make up the whole (information industry), but whose individual potentials, are less than the unfolding information industry. As such, if this development was pursued by companies within these industries, unending suits of anti-trust practices may result. From this perspective, I propose an answer to the Business Week magazine (2-5-90) cover story question, "..., Does the US need a High Tech Industrial Policy...?"[3]. The answer to the question is not a "yes", or "no", but the development of ***the information industry***.

The efforts at DAT legislation, telephone companies entering the cable industry, HDTV, etc, are nothing but a slapstick approach that begs the question for the need of an information industry. Information; published text, software, video, audio, and other intellectual property, is the issue. One does not build a 100 million dollar library to store one book. One does not develop a 100 million dollar electronics plant, to sell recording devices where there is only one recording. Without a profit motive for either information producers (artists, writers, publishers, etc) or equipment manufacturers (audio, video, software, text), the industry will wither away. Since most video and audio, equipment are imports, the "information producers" side of this equation is more at stake within the U.S.

General Motors would be highly upset if a device was invented that allowed someone to reproduce a $10,000 car within one minute. Present computer systems are capable of doing this injustice to a

$10,000 software package.

The software industry is also in need of repair. Electronic bulletin boards provide thousands of human-hours of work, which can be freely copied. Worst, is the pervasive infringement of copyrights on college campuses, where students make copies of friends' software, and buy books on how-to use the software[4]. The present "cry of wolf" in the DAT audio world is but a precursor to the eventual expansion to an all digital world. Imagine a future in which struggling artists (software, music, video, etc) can only hope to survive by displaying their "freeware" on a bulletin board. This is not the future of the *information industry* that I have envisioned.

Most recently, the US computer industry made more foreign sales than domestic sales. More and more, the ability of an industry to survive is dependent upon its involvement in the international marketplace. In India, (which produces over twice as many films as Hollywood), it is possible to buy counterfeit video recordings of movies before the day of their release[5]. Sales of some recording artists such as Madonna, are being undercut in some third world countries, owing to counterfeit LP production[6].

It is not the technology of the aficionado hacker, audiophile, or videophile in first world countries that solely dictates a solution to the piracy of "intellectual property". Adding unenforceable legislation, or easily defeated countermeasures, to an age old problem is but a bandage approach. The battlecries would be repeated for every new development; Digital Compact Cassettes, Recordable Compact Disc, and indirectly, HDTV. With each new turn in technology, there would be a new turn into piracy. (For example, a CD may be used as a master to press LPs; HDTV videotapes may be used as a master to mass produce videos, etc).

The proposed information industry solution, is to provide technology that allows the information producer, - whether software, audio, video, etc -, a choice of distribution and degree of exposure to piracy, viz the movie industry. A range of choices from cinema-like type of distribution, video store-like type of distribution, to the outright broadcasting (whether electronic bulletin board, cable, or airwave broadcast) of user recordable material. It is unfair to speak of copyright legislation when the only game in town facilitates such easy violations.

Congress is not in the business of innovating new industries. However in understanding the potential of technology, standards and guidelines may be drafted for the formation of new industries. There would be no television industry, if there was not a NTSC standard. *There would have been an HDTV industry, if there were a NTSC HDTV standard.*

The potential of technology may be harnessed to provide viable (enforceable) legislative solutions not yet available. Maybe the equipment manufacturers (computers, consumer electronics) have been violating the copyright laws with their designs. Maybe the information producers would always be poised to sue. Providing a standard for "secured" recordings would go a long way towards alleviating these ambiguities.

In conclusion, I am proposing the development of an information industry. This industry will offer the distribution of information at various levels of security, somewhat like the distribution of movies. At the highest level, information exchange would be recorded in a form only discernible by the recording device. Personal copies of the recordings may be made, but incapable of other than personal use. From this design, iterations of all present existing form of information exchange, - universal reproduction to bulletin board freeware -, may still be offered.

The present metamorphosis of hit and miss upgrades to the personal computer and consumer electronics industries, is not evolving towards this information industry. In the proposed information industry, the information producer, retailer, and buyer, will choose the level of secured access. Since the highest secured level would provide security for all copyright purposes, the industry will provide recourse for all DATs, and DAT-like future developments. Thus, congress would be afforded a *constitutional* approach to legislation, rather than the present piecemeal approach.

The Honorable Daniel K. Inouye
Chairman, Subcommittee on
Communications
Committee on Commerce, Science and
Transportation
United States Senate
SH-227 Hart Senate Office Building
Washington, DC 20510

Dear Senator Inouye:

As retailers anxious to sell digital audio tape recorders, we support the Digital Audio Tape Recorder Act of 1990. We want to thank you for having held a hearing on this important bill. We would deeply appreciate your including our letter in the hearing record.

Now that the digital decade has arrived, the time has come to enact the DAT bill. A digital audio tape recorder is the most innovative product to be developed in years for capturing music in its purest essence. One day it will replace the conventional analog tape recorder because it provides consumers and musicians with superb recording and playback quality. It is very unfortunate that, until recently, the general public has been denied access to this wonderful technology. We have not been able to market DATs, even though DATs have been sold in other parts of the world since 1986. For the past four years, retailers have been waiting for the day that we could actually start selling DATs here in the United States, and we are pleased that that day has finally arrived.

We understand that the record industry and DAT manufacturers finally came to an agreement on a new technical standard which addresses the record industry's concerns about serial copying. The recommended standard (SCMS) allows consumers to make first generation direct digital copies of compact discs and prerecorded DAT tapes, but prohibits them from making further direct digital copies of the copies. In this way, it prevents digital cloning of the original software. Consumers can make copies of their own original sources of music without restriction and without sound degradation. This appears to be an entirely reasonable compromise, and one manufacturer has begun to ship DATs to the U.S. that incorporate SCMS circuitry.

The introduction of DATs in the United States was long overdue. A DAT is the best audio recording technology that consumers can enjoy today and American consumers should have the same access to DATs as other countries' consumers. For the past few years, ever since DATs were introduced in Japan and Europe, our customers have been asking when they will be able to buy DATs. Our customers want the convenience of being able to enjoy high quality taped music at home, in a car, or at play. Aspiring musicians want DATs to be able to make their own recordings. Our customers are not pirates. They don't want the machines to make multiple copies of compact discs, as the Songwriters Guild and the National Music Publishers Association are suggesting. They simply wish to enjoy music.

For the past few years that American consumers have been denied access to DATs, we retailers have suffered from lost sales opportunities to grey market importers. Moreover, uncertainty as to when DATs would be introduced in the United States has made our business planning extremely difficult. Now that one manufacturer has begun to ship DATs to the U.S., it is more important than ever that the DAT bill be passed, so that other manufacturers will feel free to make DATs available to us and our customers in the standardized format.

DATs can provide opportunities for all of us--retailers, consumers, musicians, songwriters, artists, and music publishers. Advances in consumer electronics have consistently meant advances in the music industry's welfare. Now's the time to enjoy the DAT revolution.

We wish to thank you again for holding a hearing. With your leadership, we are sure we will finally be able to bring the latest in consumer electronic products to our customers and to musicians throughout the United States. We hope your subcommittee will take swift action in moving the DAT bill, as introduced, at the earliest possible date so that this compromise can be enacted this year. We deeply appreciate your leadership and look forward to learning about enactment of the DAT bill.

Sincerely yours,

Jerry Shumway
Hassler Audio Video

Kyle Plank
Karl's Inc.

Jerry Shumway
Hasslers Audio/Video Special
Phoenix, AZ

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Karl's, Inc.
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Chartered August 27th 1921

May 17, 1990

International Executive Board
American Federation of Musicians
1501 Broadway, Suite 600
New York, NY 10036

Gentlemen:

Yesterday I met with George David Weiss, president of Songwriters Guild of America. He expressed dismay that the AFM had announced (upon the conclusion of the phonograph record negotiations) its support of pending legislation concerning Digital Audio Tape (DAT) machines. Since the facts he pointed out should be of interest to all musicians, I will summarize them in the hope that the AFM's support of this legislation might be reconsidered.

First of all, it should be stressed that the introduction of DAT machines will make possible the duplication of perfect copies of CDs or other digitally encoded recordings. The U.S. Government's Office of Technology Assessment (OTA) supports the view that the availability of such machines will escalate the present widespread dissemination of home-taped music. It is feared that "cottage industries" will spring up whereby entrepreneurial citizens will market digital copies of recordings to friends and neighbors at a fraction of the cost of commercially available products, with no royalties paid to copyright holders or to our Special Payments Fund.

Many other countries have adopted a system of royalties on blank tape sales. This system was proposed in the U.S., but got nowhere, thanks largely to opposition from RIAA. It must be noted that RIAA's largest contributor is one of the industry's leaders, SONY, Inc., the prime manufacturer of DAT recorders (the vertical integration of the industry is growing--Phillips, too, makes hardware; otherwise, the phonorecord manufacturers might be expected to oppose DATs).

An earlier proposal to incorporate a "copycode" in digitally recorded music which could render copying impossible was shot down by the OTA as degrading the quality of the sound. The current proposal would mandate the incorporation of a chip in DAT recorders which would make it impossible only to make copies from DAT-made copies. It would not stop "cottage industrialists" from making unlimited numbers of copies from the original CDs.

And the intended effect of the proposed chip could surely be defeated by electronic "hackers," just as the encryption of satellite TV signals is being widely decoded by illegal "descramblers" and "black boxes" have made it possible to steal millions from the phone company.

Most important to musicians, our continued support of the current DAT proposal will alienate those who oppose it. These include not only songwriters but publishers and their associations including ASCAP and BMI. This is of special significance to our effort to amend the copyright law to afford performance rights to musicians.

More than a decade ago, the push for performing rights enjoyed the support of all entertainment industry groups, except for the broadcasting industry. Unfortunately, the broadcasters' clout was sufficient to "deep-six" the proposed legislation. For a renewed effort to be successful, we will need the cooperation and support of all of our previous allies, at the very least.

The present DAT proposal is a creation of our employers. We were not invited to participate in the discussions leading up to its promulgation, nor were songwriters or several other affected groups. Its effect is likely to still further diminish musicians' enjoyment of the economic rewards of our industry. I believe that our support for this legislation should therefore be reconsidered.

Several other aspects of this issue, including the reciprocity of international royalty payments, were mentioned by Mr. Weiss. I am sure that he would welcome a dialogue with AFM leadership. I therefore suggest that such dialogue be initiated and urge you discuss these questions at your earliest opportunity.

Sincerely and fraternally,

John Glasel
President

The Honorable Daniel K. Inouye
Subcommittee on Communications
Finance, Commerce and Transportation Committee
United States Senate
Washington, DC 20510

Thank you sincerely for this opportunity to provide testimony on this legislation regarding Digital Audio Tape (DAT).

I am Sol (Solomon) K. Bright, a native Hawaiian who, for 63 years of my 80 year life, is a professional entertainer, musician and composer. As a composer, I have written several Hawaiian songs written with English and/or Hawaiian lyrics. (Many people have come to know me as The Hawaiian Cowboy -- in part because I wrote the song, "Hawaiian Cowboy.")

Two (2) of my compositions, written in the 1930s, are still somewhat popular especially in Hawaii, parts of the U.S. and Canada and Japan. They are "Hawaiian Cowboy" and "Sophisticated Hula." Noteworthy is the popularity of "Sophisticated Hula."

Presently, my song "Sophisticated Hula," is pressing the number one (#1) ranked Hawaiian tune, namely, "Kaimana Hila," from its number two (#2) slot in Japan. Consequently, this current popularity does realize some remuneration, for me, from the Japan recording industry. Clearly, this is due to the existence of the laws of copyright in Japan and the United States with ASCAP here and a comparable Japan organization. Moreover, several compositions provide me a modest dollar from its U.S. sales.

The above-cited facts, interestingly enough, indicate the importance of ASCAP and the statutory provisions of copyright in particular, here in these United States of America. For me, the copyright law helps protect, perpetuate and provide compensation for the music I have been lucky enough to compose clearly, without this law of copyright, no protection would exist against unfair exploitation such as unauthorized copying. No composer and/or writer's means of making a living would have safeguards. The weakening of copyright would very likely mean:

(1) No compensation

(2) No recognition - Nothing!

For me, I might never have experienced the honor bestowed on me by one of the world's largest Buddhist Sects. They named me A Living Treasure of Hawaii as a Performing Artist and Composer.

Accordingly, I am moved to support ASCAP's opposition to this legislation on DAT (Digital Audio Tape). It is my understanding that ASCAP's concerns are:

1) No bill allowing copying should pass unless it provides equity in terms of insuring appropriate compensation for the writer,

composers and publishers of the music to be used.

2) Any solution should be broad enough to cover future technologies which are just around the corner and not just DAT technology.

3) That all parties should be urged to sit down at the negotiating table and arrive at a mutually acceptable solution to the compensation problem.

Without the position advocated by ASCAP on DAT, I suspect the creative lyric and the melodic imagery would be simply applauded, and the composers' need for incentive and income to sustain his mind and person would be wanting.

I am sure you appreciate and understand my livelihood depends on appropriate compensation as a professional entertainer, musician; as a composer. Therefore, legislation which undermines my sources of income is most damaging and that is what this bill would do.

Again, I support the ASCAP position on legislation toward Digital Audio Tape (DAT). I believe it provides a reasonable and fair response to the needs of all performing artists -- musician, entertainer, composer.

Lastly, I thank you for letting me testify.

Mahalo Nui Loa

Audio Digital Systems
P.O. Box 02088
Columbus, Ohio 43202
(614) 263-9740

July 4, 1990

Senator Inouye
United States Senate
Hart Senate Office Building
Room 227
Washington, DC 20510

Dear Senator Inouye,

I am requesting that this letter be added to the Senate record concerning bill S2358, the DAT bill, which is being considered by your Subcommittee on Communication.

Audio Digital Systems, Inc. is one of many companies that manufactures devices which connect DAT machines to computers using the DAT's digital audio interface. These devices allow computers to write and read both audio and non-audio digital data to and from consumer DATs. The ability to use consumer DATs is crucial to these systems. The DAT bill, S2358, as it is written, would inadvertently prohibit computers from begin connected to consumer DATs because of the way the Serial Copy Management System is designed. Therefore, I am requesting an amendment to Senate Bill S2358 to provide an exemption for computers from implementing the Serial Copy Management System (SCMS) in a similar way that professional DATs are exempted in section (1)(c) of the bill.

DAT technology is the most important step forward in both audio and digital recording in the last 20 years. The application of this new technology is not only exciting for the music industry but is especially powerful when used in conjunction with computers, workstations and computer networks. In this bill consumer DATs have been considered to be merely for music recording. This is understandable since it represents a compromise between the record companies and the DAT manufacturers. Although music recording is the DATs primary application in terms of number of units sold, it is not their only application. When a consumer DAT is connected to a computer via its digital audio interface it has many extremely important applications far beyond the music industry, making the consumer DATs potential impact on society of great relevance. If the bill is amended to allow an exemption from SCMS for computers with digital audio interfaces, these applications would not be adversely effected. Some applications include:

1) Use of consumer DATs connected to computers for scientific applications.

If an exemption is granted, a heartbeat recorded on a consumer DAT anywhere in the world could be transferred into a computer equipped with a digital audio interface. The computer could then compress the data and in a few seconds send it across the existing international computer network to a top heart specialist. The specialist, using his computer, could then analyze the heartbeat and send the diagnosis back immediately. This is one of many possible applications of the remarkable new consumer DAT technology in the scientific area. It must be noted that the quality of the equipment now being used in conjunction with computers is greatly inferior to and much more expensive than the consumer DAT. If this bill was amended to allow computers to connect to consumer DATs a tremendous growth and development of new products and services in scientific areas would be possible. Some of the areas that would be effected are: bio-acoustics research, oceanography, speech and hearing research, mechanical vibration analysis, aerodynamics research, seismic research, medical research, acoustic research, speech processing, and computer networking.

2) Use of consumer DATs connected to computers for professional recording and editing.

If an exemption is granted, a musician with a computer and several consumer DATs could assemble the equivalent of a digital multi-track recording studio and use it to record high quality original works. This capability is one of the most exciting applications of the DAT for not only musicians but also for producers, writers, film-makers, recording engineers and educators. With this system the artist would not need, nor would it be appropriate for him to use, a professional DAT as described in the bill. Consumer DATs would have the appropriate features and would be very cost effective. Audio Digital Systems has just developed a system such as this and we are excited about the impact it will make assisting the artist in his work.

3) Use of consumer DATs connected to computers for micro computer data backup.

If an exemption is granted, the hard disk backup system of a micro computer could be replaced by the consumer DAT. The hard disk backup system, one of the micro computer's most important components, is currently expensive and unreliable. Data DATs (a DAT machine that is customized for computers) are already being sold to backup the more expensive computer workstations and mini-computers but are too expensive for personal and office computers. The use of consumer DATs for this purpose would be a tremendous leap forward and would be ideal since they are much less expensive and would provide an excellent backup medium for all personal and office computers.

If an exemption is not granted, any company that manufactures a digital audio interface for computers would be put in jeopardy by this bill. This is because a computer equipped with a digital audio interface would become a "digital audio interface device" and would have to implement the SCMS as described in the bill and it's technical reference. To implement SCMS on a computer is impossible because once the data is in the computer there is no mechanism to ensure that the SCMS bits are maintained. The vary nature of computers is that any data in them can be changed by simple commands, there is no feasible way around this fact. Data that enters a computer from a DAT machine is no different than any other data in a computer and cannot be treated differently. A company could not manufacture digital audio interfaces for computers because it would be liable for the inability to implement the SCMS.

In conclusion, there are many important situations wherein digital audio data recorded with a DAT would need to be transferred into computers. Since guaranteeing the integrity of the SCMS bits on data in computer files is impossible, these computers would violate the SCMS requirements for a "digital audio interface device" as described in the bill. It is our assertion that in the best interest of American business persons, scientists, and musicians the use of computers to process the digital audio data from consumer DAT machines should be allowed, and not limited as they are in this bill. I respectfully request that you amend the bill to exempt computers connected to DAT machines by granting any computer use of the digital audio interface the same rights as the "professional" DAT.

If after careful consideration you do not grant an exemption for computers please consider redesigning the Serial Copy Management System in such a way as to allow computers to transfer digital audio data to and from consumer DATs.

Douglas J. Karl
Douglas J. Karl
President
Audio Digital Systems, Inc.

For the Record

AFM
AMERICAN FEDERATION OF MUSICIANS
OF THE UNITED STATES AND CANADA
AFFILIATED WITH THE A.F.L.-C.I.O.

OFFICE OF THE PRESIDENT
J. MARTIN EMERSON
Suite 600, Paramount Building
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New York, N.Y. 10036

(212) 869-1330

June 13, 1990

The Honorable Daniel K. Inouye
Chairman
Communications Subcommittee of the
Senate Committee on Commerce,
Science, and Transporation
SH-227 Hart Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

I am writing on behalf of the American Federation of Musicians to urge your Subcommittee's swift approval of S. 2358, the Digital Audio Tape Recorder Act of 1990.

The A. F. of M. represents hundreds of thousands of musicians across the country who earn their livelihoods by making music. We have long been concerned about the harmful effects that home taping has on our profession and on the American music industry as a whole. By displacing sales of prerecorded music, home taping threatens the financial well-being of virtually every segment of the music industry. Musicians are affected in two principal ways.

First, as a supporter of live music, you are doubtless aware that the growing popularity of recorded music has meant, over the years, fewer and fewer employment opportunities for musicians. Recorded music has replaced the live musician on the radio, in restaurants, theaters, ice shows, circuses, in night clubs and in other entertainment venues. To help counteract the contraction of employment opportunities for musicians caused by recorded music, the A. F. of M. and the recording companies established in the 1940's, the Music Performance Trust Funds to provide a source of employment for musicians, especially those displaced by "canned" or recorded music. The fund enables musicians to provide free musical entertainment to the public in countless communities throughout the country.

The Music Performance Trust Funds and the subsequently-established Special Payments Fund, whose proceeds are distributed directly to musicians employed in the recording industry, are funded from monies derived from record sales. The sales displacement caused by home taping reduces the payments into these two funds and diminishes an important source of income for many musicians.

Second, home copying limits musicians' opportunities to make recordings. Reduced sales of records mean less money for companies to invest in new recordings and in musical genres of specialized appeal, such as jazz and New Age music. This means fewer record sessions and less diverse recordings. Diminished investment in music particularly hurts aspiring and struggling musicians who will never be given the break they so desperately seek and deserve under the American way.

Digital audio tape ("DAT") recorders, with their unprecedented ability to make infinite generations of perfect copies of digital originals, will exacerbate this situation unless Congress acts. It is for this reason that the A. F. of M. seeks your support for, and your Subcommittee's prompt action on, the Digital Audio Tape Recorder Act of 1990.

The DAT bill is an important first step in addressing the home taping problem. This compromise legislation defuses the most threatening aspect of DAT technology, its serial copying capability. It opens the door to cooperation between the music industry and the hardware industry on copyright issues raised by future technologies. And it ensures that the dimensions of the home taping problem will not grow worse while efforts continue to forge a more comprehensive solution to the problem.

We will continue to be a part of the music industry's efforts to secure the support of Congress for a more comprehensive solution to this problem, including the adoption of royalty legislation covering Performers' Rights for musicians. Such legislation will help to ensure fair and equitable compensation for all those who contribute to the creation of a sound recording.

We urge you to reject the Copyright Coalition's arguments that this bill should be defeated because it contains no royalty provision. Royalties must be part of the ultimate solution, but until such legislation can be enacted, we need S. 2358 to recoup for our members at least some of the income that would otherwise be lost due to serial taping.

American musicians' livelihoods depend upon the existence of a vital music industry, and a vital music industry cannot exist without musicians. We urge you to move promptly to approve the Digital Audio Tape Recorder Act of 1990 to protect America's musicians.

Very truly yours,

J. Martin Emerson

J. Martin Emerson
President

Musicians' Association of Hawaii
LOCAL No. 677, American Federation of Musicians

MILTON H. CARTER, JR.
President

JOHN E. K. AKAKA
Vice President

REUBEN YAP
Secretary-Treasurer

June 12, 1990

The Honorable Daniel K. Inouye
United States Senate
Washington, D.C. 20510

Dear Senator Inouye:

As president of Local 677 American Federation of Musicians I feel that I should inform you that many of our members, in Hawaii, have spoken to me about the Digital Audio Tape legislation (Senate 2358) and to a man, they are against it.

Senator, as you know, many of our musicians' are songwriters and they feel strongly that if this legislation passes it will effect their earnings negatively.

Mr. Sol Bright, a dear friend and member of the Board of directors of our local is in Washington to address your committee on this important legislation. Mr. Bright is in Washington to speak for the American Society of Composers, Authors and Publishers (ASCAP) and has been a musician/songwriter for over 60 years. He knows from experience what will happen if this legislation passes.

I know that you will use your best judgement in ensuring that musicians and composers are provided equity under the legislation proposed for the regulation of Digital Audio Tape. Clearly this would include appropriate compensation for their respective skills and talents.

Sincerely,

Milton Carter

Milton H. Carter Jr.
President